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Products, News & Information Data Centers Can Trust. Since 1979

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Powerful Software Within Reach

Oracle Accelerate Program Combines Solutions, Education

by Nathan Lake

ORACLE OFFERS SOFTWARE that can help you with just about any business process. But for small to midsized enterprises, which typically don't have staff on-hand to customize the software and teach end users how to use it, an Oracle solution may seem out of reach. Oracle understands this and created its Oracle Accelerate program to help.

The Oracle Accelerate program offers more than 300 packaged solutions with setup and education performed by one of Oracle's experienced partners. Best of all, Oracle Accelerate is priced to fit within the budget of most SMEs. Oracle Accelerate is designed to help SMEs reap the benefits of full-fledged Oracle products, so you won't be dealing with stripped-down software that's missing key features. And, Oracle Accelerate solutions are scalable, which means they are prepared to grow as your business grows.

our demand generation," he says. That being said, until recently, the inside sales team for Jameco Electronics had almost no ability to keep track of customer interactions.

After making a few failed attempts at creating a CRM system in the past, Jameco worked with AMX International (www.amxinc.com) to help the company create a CRM system that was actually going to work. One of AMX International's specialties is helping Oracle customers plan and execute their technology upgrades, and AMX also provides services to protect, extend, and evolve the technology investments. AMX offers an out-of-the-box integration process into the ERP system, so Jameco could link the front office to the back office and integrate items from lead capture to the order-booking process.

Darin Stoddard, vice president of business development at AMX International, says, "Just to convert the old data from the existing system takes a long time in a traditional implementation, and starting from scratch would be a long process. The conversion to Oracle's Web services and adapters allows us to quickly transfer content from various data sources to the new system."

Some customers do not have a standard, repeatable process for sales—many just run spreadsheets—so AMX International shows the company sales processes that almost everyone has, as well as sales processes that are pertinent to the company's particular industry. Harris says, "I certainly thought I knew what I wanted, and AMX International helped provide me with the industry best practices, and in some cases, I said 'OK, let's do it' and others I said 'no.'"

Facilitate User Adoption

The Oracle Accelerate solution from AMX International also includes workshops that are designed to facilitate user adoption. "In terms of a successful project,



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we look to user adoption as a big factor," Stoddard says. "Because if the users don't adopt the system, it doesn't matter how great the technology is, the result will be failure." To aid the adoption effort for Jameco's salespeople, AMX International put information into CRM that, historically, the Jameco salespeople did not have easy access to, such as what the customer had done year-to-date and the last product purchased.

After three months of use, Jameco already considers the move a success, Harris says. "Since the moment that the CRM was put in place, sales have gone up, and I think it's clear that there's both a cause and effect." Another side effect is that it's become more clear to Jameco what the sales force contributes to the company. "In some cases, the assumption was that the salesperson was simply taking the order, and now, the sales force's results make it clear what the sales force is contributing," Harris says.

Jameco was initially planning on managing the CRM On Demand installation by itself because the purchase comes with support from Oracle's team. "But AMX's team was so good that it was cheaper for us to have them manage, customize, and develop reports than it was to do it ourselves," Harris says. **P**

Oracle Accelerate

A service that helps bring industry-focused Oracle solutions to small and medium-sized enterprises with the help of Gold and Platinum Partners in the Oracle PartnerNetwork.

"Since the moment that the CRM was put in place, sales have gone up, and I think it's clear that there's both a cause and effect," says Greg Harris, vice president of sales and marketing for Jameco Electronics.

(800) 672-2531
www.oracle.com

Jameco Electronics, an electronics catalog company, needed a CRM system that would integrate with its pre-Windows, green-screen ordering system. It turned to AMX International, an Oracle Platinum Partner, and the Oracle Accelerate program for Oracle CRM On Demand.

Antiquated Ordering System

Jameco Electronics was established in 1974, and, for much of that time, generated most of its business from a catalog that was sent out about four times a year, according to Greg Harris, vice president of sales and marketing for Jameco Electronics. "After that, we modernized

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- Less than 10
- 200 to 499
- 10 to 99
- 500 to 999
- 100 to 199
- 1,000+

2. How often do you purchase computer hardware/software?

- Weekly
- Quarterly
- Bi-weekly
- Annually
- Monthly
- No Involvement

3. What is your annual computer hardware/software purchasing budget?

- \$0 to \$9,999
- \$100,000 to \$249,999
- \$10,000 to \$24,999
- \$250,000 to \$499,999
- \$25,000 to \$49,999
- \$500,000 to \$999,000
- \$50,000 to \$99,999
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■ Enterprise security can only be as strong as its weakest link, and more often than not, that weakest link is a password. That's why, for IT managers, finding and fixing weak passwords is of utmost concern page 33

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Longtime Lexmark CEO To Retire

Lexmark CEO Paul Curlander announced late last month that he will retire in spring 2011. Curlander, who spent the past 12 years as Lexmark's leader, will be replaced by Paul Roche, who has been with Lexmark since it formed and served most recently as executive vice president of the company and president of its Imaging Solutions division. Curlander, who joined Lexmark in 1991, will serve as the company's executive chairman and the chairman of the company's board of directors until spring 2011, when he's expected to retire from those positions, as well. Following Curlander's Oct. 26 announcement, Lexmark's shares dropped 21%. Lexmark recently released its Q3 2010 results, which showed revenues of \$1.02 billion, up from \$958 million the previous year; however, the revenue fell short of analysts' \$1.04 billion expectations. The company's net earnings for the quarter came in at \$72 million, up 622% year over year.

Intel Opens First Plant In Asia

Intel has officially opened its first processor manufacturing plant in Asia. Plans for the \$2.5 billion factory, which is located in Dalian, China, were first announced in 2007. Reportedly, the factory will primarily output chips for laptops, high-end desktop systems, and Xeon-based servers on 300mm silicon wafers using Intel's 65nm manufacturing technology. "This manufacturing facility helps deliver on our vision to contribute to sustainable growth in China while giving us better proximity to serve our customers in Asia," said Intel CEO Paul Otellini in a statement released by the company. To date, Intel has reportedly invested \$4.7 billion in China. The company also recently announced it will invest up to \$8 billion toward building two new manufacturing

facilities stateside that will produce chips using Intel's 22nm technology.

Text Messaging & Web Usage On The Rise

Text messages are being sent all over the world at a record pace, according to a new study from the International Telecommunications Union. The study estimates that 6.1 trillion transmissions will be sent by the end of this year, or 200,000 every second. Driving this total, according to ITU, is the fact that 90% of the world population now has access to mobile phones; in fact, in developed countries, there are 116 subscriptions per 100 people. Additionally, ITU predicts that about 2 billion users around the world will have access to the Internet by the end of this year; however, ITU expects that only 21% of people in developing countries will have Internet access vs. 71% in developed countries. In addition, broadband costs in developing countries average \$190 per month as opposed to \$28 in developed countries.

NIST Announces Smart Grid Standards

NIST (the National Institute of Standards and Technology) released five sets of foundational standards for smart grids. The standards focus on the information models and protocols for efficient and reliable grid operation, as well as dealing with cybersecurity; for example, IEC 61970 and IEC 61969 provide a common information model for the data exchange between devices and house networks. NIST indicates that these standards will be updated as smart grid requirements and technologies change. The three other standards deal with facilitating substation automation and interoperability, facilitating the exchanges of information between control centers, and addressing cybersecurity communication protocols.

Good News For Full-Time Tech Jobs

Dice.com, a tech recruitment Web site, found that the number of full-time tech jobs has increased 46% in the past year. The amount of full-time jobs advertised on Dice's service jumped from 29,101 to 42,502 from October 2009 to October 2010; in total, the amount of full-time, contract, and part-time positions rose from 51,439 to 70,798 year over year. Dice indicated that tech hiring has been steadily increasing since December 2009. The report also noted that Silicon Valley posted its highest job count on Dice in two years with 4,567 jobs, which is up 64% from a year ago.



Click Fraud On The Rise

More and more ad clicks are being fraudulently generated, as opposed to clicks gathered organically from interested customers, according to analytics firm Click Forensics in its report on the third quarter of this year. Occurrences of click fraud occur either maliciously or accidentally; malicious click fraud employs botnets and other sources of intentional click-boosting, while accidental clicks come from users who mistakenly click an ad without meaning to do so. Overall, click fraud climbed to an average of 22.3% of all click-throughs, up significantly from the previous quarter's 18.6% rate of fraud and Q3 2009's 14.1% figure. Outside North America, Click Forensics reports that Japan, the Netherlands, the Philippines, and China accounted for the highest volume of fraudulent clicks.

Google Sets Record For Internet Traffic

Google consumes 6.4% of all worldwide Internet traffic, according to research by Arbor Networks. Arbor gathered information from more than 100 ISPs, covering all Google-related sites, including its search engine, YouTube, Gmail, and Google Maps. According to Arbor Networks, Google's share has increased by 1% since January; only one global ISP account for more traffic. The numbers may not be surprising considering Google recently announced a third-quarter revenue of \$7.29 billion, which is a 23% increase over the same period last year.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	Oct. 14 \$	Oct. 28 \$	% change from previous issue
AMD	AMD	\$4.93	\$7.14	\$7.63	▲ 6.86%
CA Technologies	CA	\$21.46	\$22	\$22.89	▲ 4.05%
Cisco Systems	CSCO	\$23.52	\$23.07	\$23.19	▲ 0.52%
Dell	DELL	\$14.93	\$14.27	\$14.59	▲ 2.24%
Google	GOOG	\$551.05	\$540.93	\$618.58	▲ 14.35%
HP	HPQ	\$48.35	\$42.13	\$42.66	▲ 1.26%
IBM	IBM	\$122.87	\$141.50	\$140.90	▼ 0.42%
Intel	INTC	\$19.22	\$19.32	\$20.47	▲ 5.95%
McAfee	MFE	\$43.75	\$47.25	\$47.33	▲ 0.17%
Microsoft	MSFT	\$28.22	\$25.23	\$26.28	▲ 4.16%
Oracle	ORCL	\$21.45	\$28.33	\$29.36	▲ 3.64%
Red Hat Software	RHT	\$26.65	\$39.67	\$42.22	▲ 6.43%
Symantec	SYMC	\$17.74	\$15.56	\$16.45	▲ 5.72%

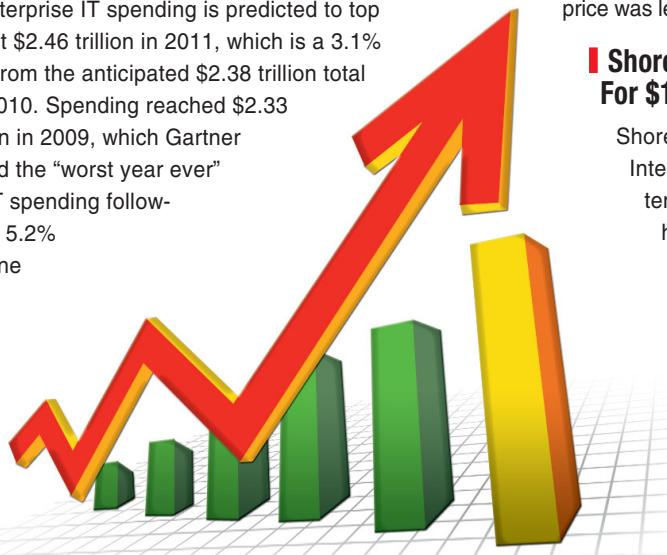
NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

AT&T Sets Record For iPhone Activations

AT&T posted its highest number of iPhone activations in Q3 2010. Specifically, the company activated 5.2 million iPhones in the third quarter of 2010, up from 3.2 million activations in the previous quarter; of those 5.2 million activations, 24% were new AT&T customers. Additionally, the company says 57.3% of its postpaid subscribers have smartphones, which is up from 42% last year. Overall, AT&T added 2.6 million net subscribers in the quarter, bringing its total to 92.8 million, and about 40% of the company's gross subscriber numbers for the third quarter were iPhone buyers.

Gartner Forecasts \$2.5 Trillion In IT Spending Next Year

According to a new report from Gartner, global enterprise IT spending is predicted to top out at \$2.46 trillion in 2011, which is a 3.1% rise from the anticipated \$2.38 trillion total for 2010. Spending reached \$2.33 trillion in 2009, which Gartner called the "worst year ever" for IT spending following a 5.2% decline.



from 2008. In the next 20 years, information will be the primary resource driving the economy, according to Gartner Senior Vice President Peter Sondergaard, who predicts that cloud computing, the business impact of social computing, context-aware computing, and pattern-based strategy are among the trends that will sustain the change in IT over the next 10 to 20 years.

Former Oracle President Now Infor CEO

Charles Phillips, who until recently served as president of database giant Oracle until HP's Mark Hurd joined Oracle's roster, has taken on the position of CEO at business application company Infor. Phillips also joins the board of directors at Infor, which develops process automation and enterprise resource planning software for midsized enterprises. Infor's outgoing CEO Jim Schaper will continue in his role as chairman of the company. Schaper will also have a hand in strategic development.

SAP Reports Growth In Q3 2010

Software maker SAP announced its preliminary third-quarter financial results, which show a 20% increase in IFRS software and software-related service revenue for the quarter (euro 2.3 billion, up from euro 1.9 billion in Q3 2009). Non-IFRS software and software-related services revenue was up slightly more, showing an increase of 21% (euro 2.35 billion from euro 1.9 billion in Q3 2009). The company's IFRS software revenue increased 25% to euro 656 million (up from euro 525 million in Q3 2009). Total IFRS revenue was up 20% overall to euro 3 billion, while total non-IFRS revenue climbed to euro 3.04 billion.

Cloud Security Report Predicts Market Growth

According to a report from Forrester Research titled "Security and the Cloud," the cloud security market will grow to about \$1.5 billion, or about 5% of the IT security market, by 2015. Although the primary reason many companies

give for being reticent to adopt cloud computing is security, the report asserts that these market-driven forces will result in the development of many highly secure cloud services. The report notes that this emergence will be disruptive to some traditional security vendors but should create a market mandate for them to develop better and more innovative solutions.

Riverbed Acquires CACE

In an attempt to expand its Cascade network and application visibility platform, IT performance company Riverbed has purchased CACE Technologies. According to Riverbed, the addition of CACE products will enable Riverbed to offer an end-to-end IT performance solution that helps users troubleshoot network and application performance issues. Though specifics regarding the cost of the acquisition were not released, Randy Gottfried, Riverbed's

CFO, has indicated the purchase price was less than \$20 million.

ShoreTel Buys Agito For \$11.4 Million

ShoreTel, a provider of Internet-based phone systems, announced that it has acquired Agito Networks, which provides services to corporate cell phone users, for about \$11.4 million. The acquisition will allow ShoreTel to bolster its presence in the mobile phone market with

Agito's mobility router and smartphone client software, which works to inexpensively connect mobile phones to corporate PBXes. ShoreTel says it has acquired Agito's intellectual property, customers, and distributors, as well as some of the company's employees.

Oracle Accuses Google Of Copying Code

Oracle has sued Google, saying that Google's Android operating system contains code directly copied from Oracle's class libraries and documentation and that parts of Android's API are "derivative of Oracle's copyrighted Java API packages." The suit, originally filed in August, initially claimed that Google's mobile OS infringes on the Java-related copyrights that Oracle acquired when it purchased Sun Microsystems. Now, however, Oracle has amended the suit, providing specific examples of the alleged copyright violations, even attaching code samples that it alleges infringe on its copyrights. For its part, Google has called the charges a "baseless" attack on it and on the open-source community.

Nokia Profits Up, Jobs Down

Despite a 5% increase in sales and a net profit of \$742 million for the quarter, cell phone giant Nokia will be laying off some 1,800 employees as it attempts to combat continuing loss of market share to Google's Android and Apple's iPhone devices. The company sold 110.4 million phones, an increase of 2%, but battled shortages of components that affected the number of units it could ship. In addition, Nokia is now the sole major backer of the Symbian cell phone operating system, as Samsung and Sony Ericsson have abandoned the OS.

Apple Ships More Smartphones Than RIM

According to a new Strategy Analytics report, Apple shipped more smartphones than BlackBerry maker Research In Motion in Q3 2010. The Cupertino, Calif.-based iPhone maker

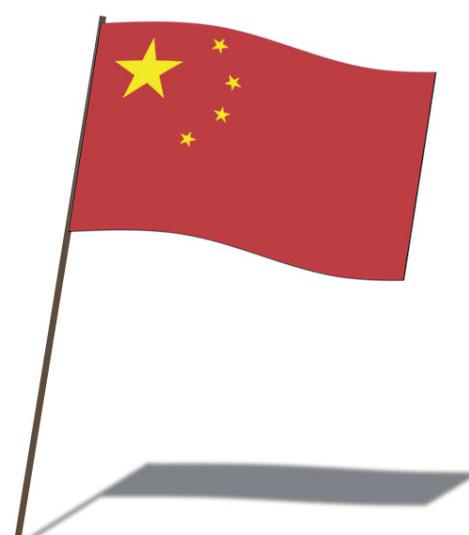
claims to have shipped 15.4 million smartphones compared to RIM's 12.3 million shipped. Smartphone heavyweight Nokia topped them all with 26.5 million devices shipped for the quarter. Overall, the smartphone market is doing well compared to last year, growing by 78%. For its part, RIM took issue with having its numbers compare to Apple's, noting that RIM's quarter ended in August and Apple's ended in September, the latter of which is usually a prime smartphone sales month.

Survey Examines Social Media In The Workplace

According to a new Cisco-sponsored Forrester Research survey of 797 information workers, Generation X, or those between the ages of 29 and 49, are taking advantage of social networking in the enterprise more than the younger 15- to 28-year-olds that make up Generation Y. Even baby boomers, or those over the age of 55, were more likely to get in on social networking in the workplace than the much younger generation: According to the survey, 50% of baby boomers use social media for business on a daily basis, compared to 40% of Generation Y users. Additionally, the report shows that overall business use of video chat has climbed 56% compared to last year, document-sharing usage is up 55%, and Web conferencing is up 52%.

China Builds World's Fastest Supercomputer

A Chinese research center has built the world's fastest supercomputer, taking the top ranking away from the U.S. and raising questions about U.S. technological and economic competitiveness. The Tianhe-1A, designed by the National University of Defense Technology and housed at the National Supercomputing Center in Tianjin, uses 7,168 Nvidia Tesla graphics chips and 14,336 Intel Xeon CPUs. Nvidia says the computer can reach 2.5 petaflops, which is about 40% faster than the current top supercomputer, the Cray XT5 Jaguar at Oakridge National Laboratory. The Tianhe-1A cost \$88 million and will be used for large-scale scientific computations.



One Year Later, Microsoft's Windows 7 Considered A Success

After selling 240 million copies, Windows 7 has become Microsoft's fastest-selling operating system to date. The OS hit its one-year anniversary in October and sales are still thriving—93% of new PCs have Win7 pre-installed, according to Microsoft. The OS has exceeded the company's expectations; Microsoft claims that Win7 has a customer satisfaction rate of 94% and can actually save money for enterprises with a greater ROI. However, Windows XP continues to be the most-used OS among existing PC users: According to Net Applications, Win7 accounts for about 17% of usage globally, compared to WinXP's 60%.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you'd like listed, please send an email to feedback@processor.com.

- NOVEMBER - ITIL v3 Foundations Training

Nov. 8
New Horizons Computer Learning Center
Lexington, Ky.
www.nhlalexington.com

AFCOM Dallas/Fort Worth

Nov. 9
Dallas, Texas
www.dfwafcom.org

AITP Garden State

Nov. 9
Jim Johnston's Steakhouse
58 Eisenhower Parkway Mountain Plaza
Roseland, N.J.
tech.groups.yahoo.com/group/aitpgardenstatechapter

AITP Richmond

Nov. 9
2015 Staples Mill Road
Richmond, Va.
www.aitprich.org

PASS Wisconsin

Nov. 9, 4:30
Microsoft Office
2176 Woodcrest Drive
Green Bay, Wis.
wisconsin.sqlpass.org

How To Accomplish Global Software License Management Seminar

Nov. 9, 8:30 a.m. to 1 p.m.
Bryant Park Hotel, New York, N.Y.
Nov. 10, 8:30 a.m. to 1 p.m.
The Drake Hotel, Chicago, Ill.
www.aspera.com/seminar

Windows Server 2008 R2: Migration & Deployment

Nov. 9, 8:30 a.m.
New Horizons San Antonio
tinyurl.com/NHSanAntonio
Nov. 10, 1 p.m.
New Horizons Austin
tinyurl.com/NHAustin

Greater Wheeling AITP

Nov. 10
Wheeling, W.Va.
www.aitp-wheeling.org

ISSA Central Pennsylvania

Nov. 10
Harrisburg University
of Science and Technology
326 Market St.
Harrisburg, Pa.
centralpenn.issa.org

ISSA San Diego

Nov. 10
San Diego, Calif.
www.sdissa.org

Software Licensing & Hardware Maintenance: Making Smart Decisions

Nov. 10, 9 a.m.
New Horizons Dayton
1890 Commerce Center
Dayton, Ohio
tinyurl.com/NHDayton2

Southern New England SQL Server User's Group

Nov. 10
www.snessug.com

AITP Washington D.C.

Nov. 11, 6:30 p.m.
Alfio's Restaurant
4515 Willard Ave.
Chevy Chase, Md.
aitpwashdc ning.com

ISSA Northeast Ohio

Nov. 11
Cuyahoga County Library—
Parma South
7335 Ridge Road
Parma, Ohio
www.neoissa.org

PRODUCT RELEASES

The Processor Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

PHYSICAL INFRASTRUCTURE

■ Aten CL5808 & CL5816

Aten has added the 8-port CL5808 and 16-port CL5816 dual-rail LCD KVM switches to its Slideaway line. Included are a 19-inch LCD monitor, keyboard, and built-in touchpad and supported access to multiple computers.

■ Black Box Retractable Cable Kits

Black Box released two Retractable Cable Kits. Both include a CAT 6 retractable cable, retractable notebook power cable, USB 2.0 optical mouse, and USB LED light. The Deluxe Kit version adds retractable stereo earphones and a USB 2.0 A/B cable. Both kits come with a zippered case and sport compact housings.

■ Elma Electronic Table-Top Rack Cabinets

Elma Electronic is now offering a line of desktop cabinets in 3U-15 heights, including enclosures with depths of 320mm, 420mm, 520mm, and 620mm. The cabinets feature feet, mounting kits, perforated panels, and recessed handles. Custom cabinets and powder-coat colors are also available.

■ Future Facilities 6SigmaDC v6

Future Facilities has released the latest version of its suite of computational fluid dynamics tools, 6SigmaDC version 6. The Virtual Facility modeling software makes it possible to manage airflow while planning for a new equipment installation. 6SigmaDC version 6 includes 6SigmaITM,

■ Power Distribution 400 Amp Powerwave Bus System

Power Distribution announced the 400 amp Powerwave Bus System for data centers and industrial and commercial power applications. The Powerwave Bus System is a flexible overhead power distribution system that minimizes the costs and coordination for computer server adds and changes in a data center or commercial environment.

■ Raritan PX-1000 Series

Raritan expanded its family of power management products with the PX-1000 Series of PDUs. Designed to deliver a new high in performance standards, the PX-1000 Series metered PDUs feature built-in intelligence, integrated support for optional environmental sensors, Web-based energy performance tracking capabilities, and many security features. The PX-1000 Series features an LED display that rotates according to the orientation of the device (either 0U vertical or 1U horizontal) and includes USB-A (host), USB-B (device), Feature/KVM, and DB9 RS-232 serial ports. The PDUs are compatible with Raritan's Power IQ Energy Management software for easy monitoring and management. For more on this product, see page 9.

■ Southco H3-EM Electronic Locking Swinghandle

Southco now offers the H3-EM Electronic Locking Swinghandle, a latch that features an advanced electromechanical lock that provides advantages over mechanical and solenoid-driven locks. Because the latch is gear motor-driven, it only requires power at the moment of actuation and can handle higher loads while using less than 200 millamps of operating current.

NETWORKING & VPN

■ Accellion SFTP Satellite

Accellion recently announced its SFTP Satellite, a file management solution that integrates SFTP file transfers using the Accellion secure file transfer system. The SFTP Satellite features automated processes and data security and is available as part of the Accellion Automation Suite.

■ Alcatel-Lucent OmniSwitch 10K Modular LAN Chassis

Alcatel-Lucent announced the Omni-Switch 10K Modular LAN Chassis, a 10 Gigabit Ethernet enterprise switch designed to deliver unprecedented non-blocking switch capacity, greater port density, lower power consumption, and a lower price per port. The product is designed to offer a more dynamically tuned network for better service and lower management costs for IT.

■ Blade Network Technologies RackSwitch G8264

Blade Network Technologies released the G8264, a top-of-rack, 40Gbps Ethernet, single-chip switch. It's the first to provide better than terabit (1.28Tb) performance, Blade says. The low-latency solution is intended for HPC, the cloud, virtualization, algorithmic trading, and

more. It features 64 10GbE ports and up to four 40GbE ports.

■ BlueCat Networks Proteus IPAM v3.5

BlueCat Networks announced Proteus IPAM v3.5, the latest version of its end-to-end IPAM (IP Address Management) tool for IPv4 and IPv6 networks. Features include consolidation of the IPv4 and IPv6 infrastructure on a single interface, IPv6 modeling, IPv6 discovery and reconciliation, complete "dual stack" IPv4/IPv6 management, and data transformation.

■ Brocade 8470 Switch Module, 1007 CNA For IBM BladeCenter

Brocade released the 8470 Switch Module and 1007 CNA for IBM BladeCenter environments. The 8470, a 10Gbps Ethernet/8Gbps Fibre Channel switch module, is the industry's first converged, embedded switch with DCB and Fibre Channel ports, Brocade says. The 8470 and 1007 CNA are made for SAN/LAN connectivity with Dynamic Ports on Demand flexibility.

■ Check Point Software Technologies Mobile Access Software Blade

Web security developer Check Point Software Technologies announced the release of its Mobile Access Software Blade, integrating SSL VPN capabilities and encryption in order to help protect mobile business users against security threats. The blade allows secure access for mobile devices connecting to corporate email, data, and applications. The release includes mobile applications for Apple, Android, Symbian, and Windows PC operating systems. The Mobile Access Software Blade provides a secure access portal that includes certificate-based, single sign-on authentication to help administrators cope with security issues caused by the increasing number of mobile devices in the workplace.

■ Fiberlink Maas360 Device Management View

Fiberlink released the Maas360 Device Management View real-time data and reporting module. Device Management View makes it possible for IT admins to identify and troubleshoot faulty machines. Primary features include device-level reporting with information on endpoint security and patch updates; smart search of hardware and software; and the ability to save search groups.

■ FrontRange ITSM Enterprise

FrontRange Solutions launched ITSM Enterprise, a support solution for IT service desks, IT best practices, IT services management, governance and compliance, and customer service. Primary features include an upgraded user interface, an advanced workflow engine, enhanced change management implementation, ITIL v3 support, self service, and a service catalog.

■ Kaseya IT Center

Kaseya announced its IT Center series of cloud-based IT tools. The IT Center features patch management; log, SNMP, and performance monitoring; and support for Windows and Mac OS X. It also has management reporting, an IT service delivery kit, and automation procedures for easier monitoring.

Manufacturers:

Do you have a new product that data center/IT managers would be interested in learning about? Send your press release or product information to press@processor.com.

■ Lancope StealthWatch FlowSensor 250

Lancope announced the availability of the StealthWatch FlowSensor 250 compact appliance. Designed to extend network visibility in branch offices, StealthWatch FlowSensor 250 is appropriate for health care, government, and retail. The FlowSensor 250 also passively monitors network traffic, quickly identifies network problems, and creates NetFlow records for analysis. The appliance starts at \$2,995.

■ LANDesk Software Management Suite 9

LANDesk Software's Management Suite 9 adds mobile device monitoring to the already included features such as infrastructure management, license monitoring, and software distribution. It also has multiple security tools, including antivirus and antispyware. Management Suite 9 features support for Windows 7 as well as iPhone, BlackBerry, and Android phones.

■ McAfee Enterprise Mobility Management 9.0

McAfee released Enterprise Mobility Management 9.0. The release is based on the Trust Digital Platform and delivers a McAfee-branded and enhanced enterprise mobile solution complete with deeper support for Apple iOS and Android devices, as well as more control for administrators. Overall, Enterprise Mobility Management lets enterprises manage smartphones, netbooks, and tablets with the same visibility and security they have with notebooks.

■ Net Optics Director XStream Pro Network Controller Switch & Director xBalancer Monitoring Load Balancer

Net Optics released the Director XStream Pro Network Controller Switch and Director xBalancer Monitoring Load Balancer. The switch features 80Gbps DPI, dynamic load balancing, True Time Stamping, and ProPush network analytics. xBalancer offers 40Gbps dynamic load balancing and increases support for inline application traffic. Director XStream Pro will cost \$85,000; Director xBalancer will cost \$48,500.

■ Network Instruments GigaStor

Network Instruments released the GigaStor line of retrospective network analysis appliances. The GigaStor appliances offer the ability to take on additional hard drives for onsite, large-scale data collection. They can also scale from 8 to 576TB. At the same time, Network Instruments says, they retain the same physical footprint as their rivals.



■ nMetrics Application Monitor 6001

nMetrics' series of application monitors, including the Application Monitor 6001, helps businesses better manage and control their network performance. The AM6001 is a hardware-based solution that can track all types of network traffic and log it into a database, so operators can evaluate network performance in real time. The AM6001, deployed centrally,



which enables IT to make quantitative configuration changes; 6SigmaFM for moving from the design step to operational management; and 6SigmaRoom, which supports internal ACU modeling. In addition, 6SigmaDC version 6 features cooling capacity analysis, realistic airflow characteristics, cross-section additions, breakdown of solar radiation effects, and a library of virtual cabinet models. For more on this product, see page 9.

■ Polargy PolarPlex Drop Away Panels

Polargy, a company known for its airflow management products, introduced the PolarPlex Drop Away Panels, part of the firm's cold- and hot-aisle containment systems designed to keep cold air contained and prevent hot air from



mixing and reducing data center cooling efficiency. The panels are the only UL-listed containment product on the market that is approved for use under sprinkler heads. The panel's inserts are heat-sensitive, dropping to the floor in high heat and allowing the ceiling-based fire suppression system to operate. The inserts are transparent to allow light to pass through. For more on this product, see page 11.

PRODUCT RELEASES

can connect with up to 50 sites, making it ideal for medium-sized businesses. It includes eight 10/100/1000 Ethernet ports; 4GB of RAM; and a 250GB storage capacity. The application monitor can be deployed in any network and can integrate with other third-party network management tools. It can be used as a standalone unit or as part of a distributed application monitor installation. A service provider version, TPM-2010, is also available. For more on this product, see page 23.

■ QLogic 3GCNA

QLogic announced a third-generation 10GbE converged networking portfolio, code-named "3GCNA." Based on the company's Network Plus Architecture, the portfolio features a trio of products: the 8200 Series 10GbE converged network adapters, the 3200 Series 10GbE intelligent Ethernet adapters, and a converged LAN-on-motherboard solution. The products are designed to address the increasingly complex requirements of virtualized enterprises.

■ Quest Foglight Network Management System

Quest Software recently showcased the integrated application performance monitoring capabilities of its Foglight Network Management System, which offers more simplified performance monitoring and management.

■ ScienceLogic EM7 G3 All-in-One

ScienceLogic released the EM7 G3 All-in-One, an enterprise-class monitoring, automation, reporting, and visualization appliance that is targeted toward

midsized organizations. Its unified toolset runs on a new 64-bit platform. It covers IPv6 and dual-stack IPv4/IPv6 networks, applications, systems, virtual servers, and multitenant private clouds. An integration server with a REST-based API is optional.

■ Strix Systems A1N 5000

Strix Systems announced the addition of the A1N 5000 family to its Access/One family. The A1N 5000 family is based on a modular architecture that consists of a MIMO-based 802.11n multi-radio mesh platform and multi-Gigabit switching backplane. The products feature an automatic, self-forming, self-configuring, and self-healing design.

STORAGE**■ Aberdeen 128TB AberSAN Z80**

Aberdeen released the 128TB AberSAN Z80, dubbed as the highest-density storage server to date. The 8U server handles up to 64 hot-swappable drives, includes the ability to scale storage to beyond 1PB via one Z-RAID array, is VMware Ready Certified, and features the NexentaStor-powered ZFS file system. Additionally, in-line deduplication, thin provisioning, data mirroring, unlimited snapshots, WAN-optimized IP replication, and high-availability clustering are all supported. Optional connectivity choices include 10GbE and 8GbE Fibre channel. Aberdeen states that an AberSAN Z80 with dual Intel Xeon processors onboard can be customized for as low as \$520 per petabyte.

■ Arkeia Software Network Backup Version 9.0

The latest version of Arkeia's backup software features progressive deduplication technology acquired with the November 2009 purchase of Kadena Systems. The company says that progressive deduplication speeds up backup



sessions by only applying deep scrutiny to files that are probable matches in the data pool. The technology also achieves greater compression and smaller data sets by optimally sizing block boundaries for each type of file. Progressive deduplication support for Linux and Windows will arrive in the first quarter of next year, while AIX, BSD, HP-UX, Macintosh, Netware, and Solaris will be supported later in 2011. Arkeia prices its Deduplication Option at \$2,000 per media server.

■ Iomega External USB 3.0 SSD Flash Drives

Iomega announced the release of a family of host-powered USB 3.0-compatible solid-state drives with built-in encryption. The pocket-sized, 1.8-inch devices are slated for availability in early November in 64GB, 128GB, and 256GB capacities. The units include a metal case that provides protection from drops up to 10 feet, bundled antivirus and backup software, and a three-year warranty.

■ MTI Cloud & Care

MTI announced MTI Cloud and MTI Care. MTI Cloud features tape cloning, data archiving, and storage, while MTI Care features remote monitoring of backup systems, storage, networks, operating systems, servers, and other virtualized environments. MTI Care also features support for Vblock Infrastructure Packages.

■ NetApp Data ONTAP 8

NetApp unveiled Data ONTAP 8, which is a unified storage platform that scales to suit customers' needs in shared IT infrastructure situations. Features include enterprise-class functionality with clustering technology in dual modes of operation, support for 64-bit applications, and advanced processing capabilities for multicore operations.

■ Quantum DXi8500

Quantum released a backup and deduplication system for the enterprise that features performance of up to 6.4TB per hour, according to the company. It supports VTL, CIFS, NFS, OST, and NAS, and it features integrated tape backup and can scale from 20 to 200TB. The system also includes deduplication, path-to-tape, replication, and support for OpenStorage API.

■ Quest Recovery Manager For SharePoint

Quest Software launched Quest Recovery Manager for SharePoint, which is a SharePoint recovery platform that offers farm level disaster and granular level restore using existing and native SharePoint backups. Quest Recovery Manager

Go to Page 6

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PRODUCT RELEASES

Continued from Page 5

for SharePoint is currently in beta, but will be available starting in November at \$4,995 per front-end server.

■ Quest Software SharePlex For Oracle

Quest Software announced several enhancements for its SharePlex for Oracle offering, which is an Oracle data replication platform. SharePlex for Oracle now offers a simplified installation, access to the SharePlex for Oracle online community, and an updated pricing scheme: \$10,000 per CPU for Oracle Enterprise Edition and \$9,000 per CPU socket for Oracle Standard Edition.

■ Supermicro Double-Sided Storage Server, Super SBB, SSE-X24S

Supermicro released a Double-Sided Storage server and JBOD products to provide compact storage with direct, hot-swap access to all drives. Supermicro also released the Super SBB (SYS-6036ST-6LR) storage bridge bay, which is built for reliability, availability, and serviceability, the company says. Finally, the SSE-X24S top-of-rack switch features 24 10Gbps ports.

■ Quest Software vRanger Standard Edition 5.0

Quest Software released vRanger Standard Edition 5.0, which provides backup and recovery capabilities. The software features ABM (Active Block Mapping) technology to accelerate data collection and recovery by removing inactive blocks and eliminating the need to write to zero blocks. vRanger Standard utilizes CBT (Change Block Tracking) with ABM to reduce the size of backup images.

■ Symantec Veritas Operations Manager & Veritas Storage Foundation High Availability

Symantec released versions of Veritas Operations Manager and its Veritas Storage Foundation High Availability product to help customers take control of storage management and eliminate manual processes. New functionality in Veritas Operations Manager bridges the gap between server, database, and storage administrators to increase storage utilization, scale operations, and maintain compliance.

■ Talend v4.1

Talend announced Talend v4.1, an upgrade to its integrated data management platform that adds data stewardship and data matching capabilities. Version 4.1 features a record survivorship interface that lets data stewards separate master records from duplicates; a system that gives data stewards simple tools to implement data quality improvements



when correcting inaccuracies in single or multiple rows of data; and the ability to define business rules as they relate to data survivorship rules and create automated processes to handle them. Talend v4.1 also features enhancements to upstream data managing capabilities to simplify process speed implementation and reduce complexity.

SECURITY

■ AFL Telecommunications Fiber Security

AFL Telecommunications released Fiber Security, an optical fiber perimeter intrusion detection system. The system

uses a fence-mounted fiber-optic cable attached to a sensing unit to analyze the power and patterns of vibrations in the fence. An algorithm discerns high- and low-level vibrations and weeds out data not caused by vibrations. Up to 100 individually customized zones can be set.

■ Avenda Systems Avenda OnGuard & External Captive Portals

Avenda Systems announced Avenda OnGuard, a family of network access agents, as well as improved support of External Captive Portals for Meru wireless controllers and Cisco switches. Together, the enhancements are designed to complement Avenda's eTIPS network access control and AAA platforms, which manage access privileges across operating systems using standards-based methods.

■ Barracuda Networks NG Firewall

Barracuda Networks announced that its Barracuda NG Firewalls will now have advanced 64-bit multiprocessing capabilities to take full advantage of multi-core CPUs. Additionally, the company announced Active Recovery Technology, which is designed to enable quick installation, management, and recovery of Barracuda NG Firewall and Barracuda NG Control Center appliances.

■ BeyondTrust PowerBroker Desktops 4.9

BeyondTrust released version 4.9 of its Windows Edition policy management platform, PowerBroker Desktops. PowerBroker Desktops is fully integrated with Microsoft System Center Configuration Manager, which lets IT personnel access reports through the familiar Microsoft interface. Other features include simpler discovery of applications that require



administrative privileges, improved integration with UAC, passive mode auditing, and new automations. The PowerBroker suite brokers access for desktops, servers, devices, applications, and virtual machines on Windows, Unix/Linux, Mac OS X, and more.

■ CoSoSys Endpoint Protector 2009

CoSoSys announced an upgraded Mac version of its Endpoint Protector 2009 software, which is designed to minimize internal threats, reduce data leakage risks, and control devices connected at computer endpoints. New features include File Tracing functionality and the ability for authorized company employees to issue temporary offline passwords for traveling employees.

■ e-DMZ TPAM Suite

e-DMZ revealed its TPAM suite, which includes TPAM PPM (Privileged Password Management) and TPAM PSM (Privileged Session Management); both integrate into existing IT infrastructures. The PPM access control mechanism can manage auto-logins and real-time validation. PSM is designed for session monitoring and can record keystrokes, mouse movements, and application access.

■ Fortinet FortiGate, FortiManager, FortiAnalyzer & FortiMail

Fortinet announced several virtual appliances designed to help the company offer better security to virtualized and cloud environments. The appliances include FortiGate, FortiManager, FortiAnalyzer, and FortiMail, all of which are designed to work with physical appliances to offer a

choice of physical and virtual form factors to increase security controls.

■ Global DataGuard Cloud Guard

Global DataGuard announced the release of a VMware version of Cloud Guard, a self-contained unified security system designed for private cloud implementations. According to the company, the product enables compliance with industry and government standards; has zero network latency; and enables security analysts to efficiently track and manage all traffic between virtual firewalls, switches, and servers.

■ iPolicy Intrusion Prevention Firewall & Security Manager

iPolicy Networks announced the release of version 3.5 for its Intrusion Prevention Firewall and iPolicy Security Manager, which offers a host of security features and manageability enhancements. With release 3.5, iPolicy offers Anti Spam that's fully integrated with iPolicy Security Manager. Anti Spam checks both incoming and outgoing messages for spam and supports drop-in deployments without requiring any DNS or SMTP reconfiguration. Management of Anti Spam is integrated with the management of other defense mechanisms in iPolicy Security Manager. Detection techniques include an intelligent combination of network tests, formal attribute analysis, header analysis, heuristic text comparison, text spam signature check, and image spam signature checks.

■ M86 Secure Web Gateway 10.0

M86 Security introduced the latest version of its M86 Secure Web Gateway, which is a unified Web security solution. The M86 Secure Web Gateway 10.0 provides in-depth and hardened security for midsize and large organizations, thanks to features including real-time code analysis and comprehensive, multilayered Web security and reporting capabilities.

■ M86 Security Reporter 3.0

M86 Security announced the M86 Security Reporter 3.0, an enterprise-class reporting solution for Web security and compliance management. The latest version offers improved visibility into Web traffic for organizations using the M86 Secure Web Gateway or M86 Web Filter products.

■ M86 WebMarshal 6.8

M86 Security unveiled M86 WebMarshal 6.8, the latest version of the firm's software-based secure Web Gateway Solution. Features include a simplified installation wizard, automatic detection of common settings, an updated default policy ruleset, and a remote Web-based console for administrative tasks.

■ McAfee Endpoint Security Platform 9

McAfee announced its Endpoint Security Platform 9 that provides endpoint and data protection for tablets, smartphones, and other mobile devices. It features McAfee's Enterprise Mobility solution with support for Android and Apple iOS and includes optimized security for devices and virtualization deployments.

■ McAfee Security Management 5

McAfee released its Security Management 5 platform, which offers scalable unified monitoring, management, and reporting for all endpoints and networks. The platform includes McAfee ePolicy Orchestrator and McAfee Risk Advisor, Global Threat Intelligence enhancements such as McAfee Host

Intrusion Prevention, and situational awareness through integration with Microsoft Active Directory and the ePolicy Orchestrator.

■ RSA Advanced Security Operations

RSA announced a set of core technologies and services designed to help organizations more effectively manage information risk and IT compliance programs by building an ASO (Advanced Security Operations) function. The solution includes the RSA Archer eGRC Platform, RSA enVision technology, RSA FraudActionSM service, and the RSA Data Loss Prevention Suite.

■ Voltage Security SecureData For Teradata

Voltage Security announced Voltage SecureData for the Teradata platform, a package designed to help customers comply with PCI DSS, Sarbanes-Oxley (SOX), Gramm-Leach-Bliley (GLBA), and state regulations. The package, part of the Voltage End-to-End Data Protection



platform, is designed in part to prevent regulatory compliance from affecting storage and database performance, all while saving on costs. Features include efficient, high-scale data protection without significantly impacting warehouse operations such as Extract, Transform, and Load; Voltage Identity-based Encryption for simplified key management and elimination of administrative hassles; and Voltage Format-Preserving Encryption to maintain the structure and format of encrypted data.

■ Webroot Web Security Service

Internet security service provider Webroot announced a cloud-based version of its Webroot Web Security Service, which includes Web activity reports to help IT better oversee bandwidth usage and to prevent network risks posed by repeated policy offenders. Also included is a reporting infrastructure that gives administrators immediate access to custom data at all levels.

MESSAGING & TELEPHONY

■ Edgewater Networks EdgeView VoIP Support System

Edgewater Networks announced the newest version of its EdgeView VoIP Support System software that helps users manage network-connected phones. Version 10.5 can support and store call quality statistics for Aastra and Polycom IP phones. EdgeView lets network operators view quality statistics and provides a variety of scores based on connection and user experience using EdgeMarc monitoring points, which can be updated through a regular firmware upgrade. EdgeView includes EdgeConnect Managed PoE switches and other third-party IP support for device backup configuration.

SERVICES

■ HP Converged Infrastructure

HP released its Converged Infrastructure services designed to deliver enhanced performance for SAP users seeking to optimize access to business information. The services combine HP's ProLiant DL980 G7 server with HP PREMA Architecture, which supports 2TB of memory and up to 64 processor cores.

PRODUCT RELEASES

S E R V E R S



■ Hardcore Computer Liquid Blade™ Server

Hardcore Computer™ announces availability of the world's first Liquid Blade™ server. This ground-breaking technological achievement delivers a systematic approach to solving the major problems faced by data center operators today. The new Liquid Blade™ Server employs Hardcore Computer's patented total liquid submersion cooling technology, engineered from the ground up to provide a superior cooling solution for servers while reducing data center operating costs. Independent studies have pointed to an 80% reduction in data center cooling costs and a sharp reduction in construction and ongoing operating expenses. Liquid Blade™ server delivers unrivaled performance, reliability, and innovation to enterprise customers. For more on this product, see page 33.

■ Pivot3 MiniBank & CloudBank

Pivot3 released its latest scale-out application platforms for hosted video surveillance. The Pivot3 MiniBank and CloudBank platforms offer easy scalability, which lets companies add appliances without affecting existing infrastructure. Pivot3 also offers high availability, failover protection, and integrated support for 10 different backup software vendors.

C L I E N T S

■ AlertSite DéjàClick Mobile Monitoring Solution

AlertSite announced DéjàClick Mobile Monitoring Solution, an inside-the-browser transaction monitor designed to help companies optimize the mobile Web experience to ensure responsiveness and reliability. Users can monitor multiple Web sites and see how they actually appear on as many as a dozen common mobile devices.

■ Datacard Group Datacard SD260

Datacard Group released the Datacard SD260 card printer, an environmentally friendly desktop device that prints secure ID cards. The SD260 requires less energy than previous devices, earning an Energy Star qualification, and saves users money by reducing energy costs. The unit features biodegradable supply cores, recyclable packaging, and a soft-touch power-down system.

■ IBM Smart Analytics System 5600

The latest version of IBM's Smart Analytics System, 5600, uses IBM's InfoSphere Warehouse 9.7.2 and x86 servers as well as Cognos' Business Intelligence software. It simplifies financial risk management, retail marketing, and electronic medical record management. Other features include a control console that manages the entire system.

■ Lexmark Workgroup Printers & MFDs

Lexmark announced its expanded line of printers and multifunction devices, which

feature a color touchscreen for added speed and flexibility. As part of the enhancement, Lexmark also released Markvision Enterprise, a Web-based device management application for administrators. The release affects Lexmark X792 laser MFPs, C792 color laser printers, and X925/C925 units with 11- x 17-inch color output requirements.

■ NextComputing Vigor Evo Plus

NextComputing recently announced the Vigor Evo Plus rugged mobile workstation. The workstation has a mil-anodized external chassis and shock-mounted internal chassis and features up to 16GB of ECC RAM, up to 11TB of storage capacity, six full-length PCI Express and PCI-X slots, and an integrated 17-inch HD display.

■ OKI Printing Solutions MC361, MC561 & MB700 Series

OKI Printing Solutions launched the MC361 and MC561 A4/letter color and mono multifunction printers, as well as the MB700 series of mono multifunction printers. The MC361 and MC561 feature multitasking capabilities and OKI's HD

Color and Single Pass Color Digital LED technologies.

■ Quest Software vWorkspace 7.2 Beta 2

Quest Software vWorkspace 7.2 delivers extended enterprise readiness through advanced reporting and logging, simplified setup and configuration, and PowerShell cmdlets for automation and integration with third-party systems.

■ Quest Software vWorkspace Ready

Quest Software vWorkspace Ready program is designed to help customers adopt virtual desktop environments using a multivendor approach.

■ Rugged Notebooks Eagle Series

Rugged Notebooks announced the release of its Eagle series rugged notebook systems designed for public safety, military, and other demanding work environments. The units, which start at \$1,695, meet FBI user-authentication guidelines for computers accessing National Crime Information Center data and feature biometric fingerprint and SmartCard readers.

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Upcoming IT Events

For more Upcoming IT Events, see page 3.

SQL Server Society of Las Vegas

Nov. 11

The Learning Center of Las Vegas
777 North Rainbow
Las Vegas, Nev.
ssolv.com
• • •

Windows Server 2008 R2:

Deployment & Migration

Nov. 11, 8:30 a.m.

New Horizons Dallas
tinyurl.com/NHDallas
Nov. 12, 8:30 a.m.New Horizons Fort Worth
tinyurl.com/NHFTWorth
• • •

7x24 Exchange Fall 2010 Conference

Nov. 14-17

JW Marriott Desert Ridge
Phoenix, Ariz.
www.7x24exchange.org
• • •

AITP Pittsburgh

Nov. 15

Slovak Catholic Sokol
205 Madison St. Road
Venetia, Pa.
www.aotp-pgh.org

AITP's Association

Outstanding Chapter Award Winner

• • •

AITP Long Island

Nov. 16

www.aotp-li.org
• • •

AITP Southwest Missouri

Nov. 16

Springfield, Mo.
aitpspringfield.org
• • •

ISSA St. Louis Chapter

Nov. 16

St. Louis, Mo.
stl.issa.org
• • •

Oklahoma City AITP Chapter

Nov. 16

Oklahoma City, Okla.
www.aotp.org/organization/chapters/chapterhome.jsp?chapter=40
• • •

AFCOM Central Ohio

Nov. 17

Columbus, Ohio
www.afcomcentralohio.org
• • •

AITP Lehigh Valley

Nov. 17

Fleetwood, Pa.
www.lv-aotp.org
• • •

AITP Northeastern Wisconsin Chapter

Nov. 17, 4:15 p.m.

Holiday Inn Select
150 S. Nicolet Road
Appleton, Wis.
new.aotp.org
• • •

ISSA Baltimore

Nov. 17, 4:30 p.m.

Sparta Inc.
7110 Samuel Morse Drive, Suite 200
Columbia, Md.
www.issa-balt.org
• • •

AITP Atlanta

Nov. 18, 5:30 p.m.

Crowne Plaza Atlanta Perimeter NW
6345 Powers Ferry Road NW
Atlanta, Ga.
www.aitpatlanta.org
• • •

AITP Greater Boston

Nov. 18

Phillip's Old Colony House
Dorchester, Mass.
www.bostonaitp.org
• • •

AITP Omaha

Nov. 18

Omaha, Neb.
www.aitpomaha.com
• • •

AFCOM St. Louis "Gateway" Chapter

Nov. 19

Schneider Electric Technology Center
807 Corporate Centre Drive
O'Fallon, Mo.
www.afcom.com/afcomnew/stlouis.html
• • •

ISSA Upstate South Carolina

Nov. 19

NuVox, 1001 Keys Drive #100
Greenville, S.C.
www.upstate-issa.org
• • •

COVER FOCUS

Optimization Considerations

Implementing These Strategies
Can Bring Out The Best In Your Data Center

by Christian Perry

• • •

REGARDLESS OF YOUR data center's size and available space, there's always more room—for improvement, that is. Your environment might be operating with few or no problems, but that doesn't mean you shouldn't be investigating tweaks that can improve efficiency and productivity. Following are optimization tips that can help your data center reach its fullest potential.

Understand What Optimization Can Do

Understanding what optimization can do for your data center is an important step that can unveil several areas of improvement, including services delivery, cost, and quality and location, space, and power, says David Howard, director of IT automation for Unisys Technology's Consulting and Integration Solutions (www.unisys.com).

Most data centers are underutilized, Howard explains, with many servers running at just 5 to 10% of their processing capacity and using less than 50% of their storage capacity. However, optimization programs can boost those server processing levels to 60% or more and storage capacity levels to 70 or 80%. These programs can also ease the process of allocating and managing this infrastructure, which in turn lowers capital and operational expenses. Optimization also helps to create a faster time to business value.

"This is less about cost than about the time it takes to implement a business service," Howard says. "Internal data center processes and infrastructure commissioning can mean months before the service is ready. This is far too long for fast-moving businesses such as those in finance and telecommunications, where the business depends on rapid availability of new applications. Organizations can move delivery time for new services from months to days or hours by redesigning processes."

Establish A Baseline

According to Joe Polastre, CTO of Sentilla (www.sentilla.com), many data center operators don't have insight into

their equipment's utilization, and few IT managers actually see the data center's power bill. To get the most of your data center, he recommends treating it like an industrial

system by performing process optimization to get the most output (computing cycles or application workload units) for the least cost (energy, space, capital investment, etc.).

"Install monitor and management tools, baseline utilization and consumption, determine what is allocated vs. actually used [including storage, servers, power, network ports, and other components], and put together a strategic plan that provides the biggest bang for your buck," Polastre says.

Raise The Temperature

Keeping a close eye on your data center's environmental conditions has always been essential for ensuring the best performance and longevity from hardware, but it remains a tricky science within even the smallest of spaces. Calvin Nicholson, director of software and strategic alliances for Server

Key Points

- Optimization programs can significantly boost both the server processing and storage capacity levels in data centers.
- Raising the data center's temperature might seem counterproductive, but it's now a recommended practice to help save huge amounts of energy.
- Treat cold air as a commodity by containing it through the use of data center curtains that create cold air containment aisles.

Technology (www.servertech.com), notes that the guidelines for environmental monitoring from organizations such as ASHRAE continue to evolve. Interestingly, data centers might have a little more leeway with their temperatures than what's followed by traditional environmental procedures.

Nicholson says that the recommendations by groups such as ASHRAE for increasing the upper temperature limit can save huge amounts of energy not required for cooling. "Many organizations have realized significant savings by increasing temperatures without seeing any degradation in their life or performance of their servers," he says. "Closely monitoring temperature and humidity, along with providing alerts and alarms should thresholds be exceeded, provides the ability to realize these sizeable savings with minimal risk."

Target Odds & Ends

The average data center contains such a wealth of potential optimization targets that it can be difficult to know where to start. The good news is that there's truly no wrong place to start, so you can literally just pick an



area and move ahead, though Howard says that a typical optimization project will use a combination of techniques.

He recommends managers refresh infrastructure with new, more optimized components and applications, rather than using like-for-like replacements; align infrastructure with business requirements (too often, IT designs the gold service where the business needs only the bronze, he says); look at an orderly lifecycle strategy for data storage; consolidate network infrastructure, potentially through the use of nondedicated networks; put procedures in place to support virtualization and cloud-based architectures; and eliminate redundant applications.

Contain The Cold Air

Lex Coors, a pioneer of cold aisle containment, first sought to achieve about 10kW per rack with a 1.3-foot raised floor by enclosing a data center's cold aisle with a door and a ceiling. Coors, vice president of data center technology and engineering for Interxion (www.interxion.com), still recommends using cold aisle containment, because without it, you might run into SLA issues.

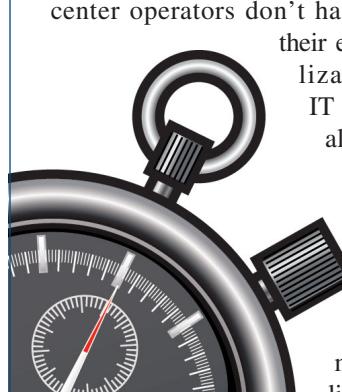
"For instance, too much installed cooling power inside an IT room may lead to an uncontrollable situation of low temperatures and high relative humidity," Coors says. "This leads to a circle of dehumidification, reheating, rehumidification, [and] in the worst case, breaching the SLAs."

He says it's a good idea to use blanking plates inside the server racks and close off all air leakage areas to avoid loss of air and/or short-circuiting of air. He also suggests installing cold aisle containment for all IT racks through the use of data center curtains, which help to make the most of airflow dynamics and hot aisle/cold aisle isolation, in turn cutting the fan use in air conditioning units by as much as 67%.

Qualify & Quantify Your Results

According to Bryan Loewen, senior managing director at Newmark Knight Frank (www.newmarkkf.com), it's never too late—or too early—to start thinking of ways to optimize your data center. However, of all the various optimization schemes that can be deployed, many don't carry a truly positive return on investment. As such, the need to qualify and quantify becomes paramount.

"Start early. Qualify. Measure. Data centers should be treated as a dynamic environment, not a static real estate asset," Loewen says. "The industry is continuously evolving, and more and more optimization strategies will become available. . . . I find that it is vital to both qualify any new process or technology and, once implemented, quantify the results in a meaningful manner that can validate the initial ROI estimation." P



Best Tip For Beginners: Get The Users On Board

Moving forward with data center optimization plans might be a breeze among IT staff, but roadblocks can emerge when those plans intermingle with end users. David Howard, director of IT automation for Unisys Technology's Consulting and Integration Solutions (www.unisys.com), says it's important for the end-user community to embrace the proposed changes and, in particular, the shared services to enable successful transitions.

"As an initial step, I recommend building a cost model that shows how costs or resources are allocated," he says. "The department may not actually be charged, but they need to understand what the ongoing costs are and how the proposed changes will affect the service and the costs. Combining this with a service catalogue where they can choose the price of service can also be effective. They'll understand what they'll get for what they're willing to pay."

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FUTURE FACILITIES 6SIGMADC VERSION 6

NEW PRODUCT

by Joanna Clay

Build A Virtual Data Center With CFD Software

ORGANIZING HUNDREDS of equipment racks, server modules, and layout specifics to allow for appropriate airflow doesn't happen without implementing an architectural plan, and one of the best ways of doing so is by using CFD (computational fluid dynamics) applications to design a new data center's layout or redesign the layout of an existing center. Future Facilities optimizes data center modeling capabilities with its flagship suite, 6SigmaDC, and its latest release, Version 6, upgrades the company's collection of CFD tools.

Component Enhancements

6SigmaDC Version 6 integrates 6SigmaFM and 6SigmaITM tools to enable real-time monitoring, side-by-side management, and cooling system efficiency analysis. 6SigmaFM helps with IT demand management, capacity management, data center layout modification, air conditioning unit performance, troubleshooting, and energy savings assessment.

6SigmaITM is designed for admins who need to make change requests as they view rooms. Such requests might include adding or removing items from the store room; installing, moving, or decommissioning equipment in the facility; and general maintenance. 6SigmaITM features an improved interface for IT configuration



Future Facilities 6SigmaDC Version 6

A suite of computational fluid dynamics tools that help data center admins design their data center layouts to analyze airflow, thermal conditions, equipment placement, and power configuration.

proposals that facilitates changes in quantitative facility layout data, cooling capacity, power consumption, and network ports.

Future Facilities has added a number of technical features that can help create a more comprehensive model of the data center. 6SigmaRoom, which is used for major design changes to the infrastructure of the facility, now supports air conditioning unit modeling, cross-sectioned ducts with transition pieces, and performance analysis for build environments.

Companies large and small can use 6SigmaDC Version 6 to create to-scale Virtual Facility models complete with intricate equipment designs to help accurately analyze the airflow dynamics of the space. Future Facilities provides a library of cabinet models that are available within in-house equipment catalogues. In addition, the Virtual Facility can be augmented with internal walls, lights, rotated raised floors, and roof panels to accurately represent true-to-life data center architecture.

RARITAN PX-1000 SERIES

NEW PRODUCT

by Seth Colaner

Manage Power In Real Time

NO MATTER THE SIZE of your data center, power is important. You need sufficient power to run your operation, but you also know that conserving power when possible can significantly lower your operating costs.

Raritan's PX-1000 Series high-quality rack PDUs offer detailed, real-time power monitoring and control over user-set power and environmental thresholds. Monitoring data includes current (amps), voltage, power (kVA and kW), power factor, and energy consumption (kWh) with ISO/IEC billing-grade accuracy. The units feature alarms in the event of an unbalanced load, which helps maintain uptime.

The PX-1000 Series PDUs are designed to be flexible enough to meet a variety of needs and are available in both 0U (vertical mount) and 1U (horizontal mount) form factors and feature various plugs and receptacles, including NEMA and IEC. To simplify setup and ease of use, the LED display, which shows power readings, changes orientation with the unit.

Users can configure the PX-1000 Series units through a command-line interface or via a user-friendly Web interface, and remote access is available



Raritan PX-1000 Series

Delivers accurate and real-time data to help you manage your data center's power.

via the Internet and CLI. Through directory services support, users can set permissions, LDAP/S, RADIUS, Active Directory, and encryption. The units are further protected by strong passwords and 256-bit encryption.

The PX-1000 Series PDUs support Raritan's plug-and-play environmental sensors for additional monitoring, helping users gain insight into temperature and humidity and adjust accordingly to increase efficiency. Users can set specific environmental thresholds and receive alerts when those parameters are reached. Additionally, the units are compatible with Raritan's Power IQ energy management software solutions, which let users more easily measure and monitor a number of power metrics, including CO2 footprints.

Intel Investment To Create New U.S. Fab, Spur Jobs

Intel will pour between \$6 billion and \$8 billion into U.S. manufacturing facilities, the chipmaker announced. The funds will help make possible the manufacturing of next-gen 22nm CPUs codenamed Ivy Bridge, which are set to go into production next year. Although a portion of the investment will go toward upgrading facilities in Arizona and Oregon, Intel plans to also build a new development fabrication plant in Oregon called D1X that's scheduled to begin R&D in 2013. Intel previously announced upgrades to U.S. facilities in 2009 in order to make 32nm process technology possible. "Intel



makes approximately 10 billion transistors per second. Our factories produce the most advanced computer technology in the world, and these investments will create capacity for innovation we haven't yet imagined," says Brian Krzanich, senior vice president and general manager of Intel's manufacturing and supply chain. Intel expects the investment to result in 6,000 to 8,000 temporary construction jobs and 800 to 1,000 permanent high-tech jobs.

Microsoft Chief Software Architect To Retire

Microsoft CEO Steve Ballmer announced that Ray Ozzie will step down from his role as chief software architect with the company, although a definite date for the departure wasn't given. For the time being, Ozzie, who joined Microsoft in 2005, will "remain with the company as he transitions the teams and ongoing strategic projects within his organization," Ballmer wrote in an email making the announcement. Ballmer added that Ozzie will focus his efforts in "the broader area of entertainment where Microsoft has many ongoing investments." Ballmer stated he won't fill Ozzie's chief software architect position, characterizing the position as being "unique." Ballmer wrote "we have a strong planning process, strong technical leaders in each business group, and strong innovation heading to the market." Ozzie took his current position from Bill Gates in 2006 and is considered one of Microsoft's key visionaries, in part for his considerable role in Microsoft's push toward cloud computing and help developing Windows Azure.

IBM Buys Financial Governance Company

IBM has acquired Clarity Systems, which provides software that helps companies collect, prepare, certify, and control financial statements for electronic filing related to SEC and other financial agency regulations. IBM says the Clarity acquisition shows IBM's commitment "to address financial governance and risk management challenges faced by financial departments in virtually every industry." Clarity's software lets organizations combine financial-related statements into a single document, reducing the possibility of errors and late filings. In other acquisition news, IBM also completed its buyout of OpenPages, a provider of software that assists companies with identifying and managing risk and compliance activities. Financial terms were not disclosed for either deal.

COVER FOCUS

Improving Hardware Maintenance Routines

Attention To Detail Pays Off In The Long Run

by Chris A. MacKinnon

• • •

SOMETIMES IT'S HARD TO FIND time to put out fires or perform high-priority tasks in the data center, let alone perform routine tasks. But when it comes down to it, hardware maintenance is a necessary routine, because if you neglect it, you'll soon have to put out more fires and perform even higher-priority tasks. To prevent all of the above from happening, it's important to fine-tune and improve your hardware maintenance routines. Here are a few tips and pieces of advice that can help.

Maintenance vs. Support

One of the first things to determine is if you want maintenance or support, according to Dana Collins, senior vice president of support services at Abtech Support (www.abtechsupport.com). "You can get a hardware break and fix maintenance contract from several maintenance companies that can swap out parts," Collins says. "It is, however, an entirely different scenario if you need support; that is, getting your system up and running when the pressure is on. Just because the light goes from amber to green when an engineer replaces a hard drive doesn't mean that a system that supports a critical part of a business is operational again."

Collins says a true support contract will have a level of service that includes software experts and monthly consulting hours that may be needed when a system crashes. "When a critical system is down at 2 a.m., nobody wants to hear that you bought a break-fix hardware maintenance contract and not a full support contract to help get back online," she says. "It's important to determine what machines your current staff has limited skills on; find a 24/7 partner that can support the environment, not just swap parts; and match the appropriate level of support to the criticality of the business unit that relies on that system."

Keep Those Storage Devices Humming

If you have storage devices that have not been shut down in years, Sandy Flynn, vice president of marketing with eBryIT (www.ebryit.com), recommends not shutting them down unless you have a good backup and have a real need to bring them down.

"A hard drive that is spinning on a spindle at a consistent rpm is going to last longer than one that is constantly changing speeds," Flynn says. "Imagine the wear on the bearing at the end of that spindle. Conversely, if that spindle has been spinning at a consistent rpm for a long time, the wear patterns are such that the process of powering down and attempting to power back up could cause a failure."

Proactive Hardware Monitoring

Information technology has sprouted a massive amount of computer hardware over the past decade. According to Bill Green, senior vice president of engineering at Abtech Support, enterprises and small businesses alike have ever-growing numbers of servers performing critical functions.

"Providing 24/7 hardware and network monitoring has become a new responsibility for many computer operations staff. Proactive hardware health and uptime can be brought down to a minimum when you're alerted in advance of the more basic and simple hardware health conditions," Green says.

"Many systems have redundant power supplies, fans, disk drives, and even I/O cards; however, when your redundancy is lost and another failure occurs, the computer system goes down," he continues. "There are early-detection tools readily available from major computer and storage manufacturers to help in this situation; some are basic and some are more sophisticated." He says IT and data center managers should take advantage of these tools to prevent unscheduled downtime.

Practice Preventive Maintenance

Maintenance visits have a substantial impact on system reliability, which is more important today as companies look to cut

Key Points

- Decide whether you need a break-fix maintenance contract or a full support contract to keep your systems in top shape.
- Employ hardware monitoring solutions to keep an eye on vital metrics such as temperature and performance; this way, you can respond immediately to problems and prevent further damage or downtime.
- Stay on top of preventive maintenance tasks and schedule periodic reviews of the facility to make sure everything is performing as it should be.

costs while still continuing to maintain efficiencies and business continuity in the data center.

Jeff Powers, senior service product manager at Emerson Network Power's Liebert Services business (www.liebert.com), says that with today's heavy reliance on technology and automated systems, disruptions in the data center can have severe impacts on the business, so SMEs need to practice preventive maintenance to keep their systems up and running. "The business case for [preventive maintenance] is stronger now than ever before," Powers says. "Preventive maintenance programs maximize the reliability and performance of the UPS systems which organizations depend on to keep critical systems running."

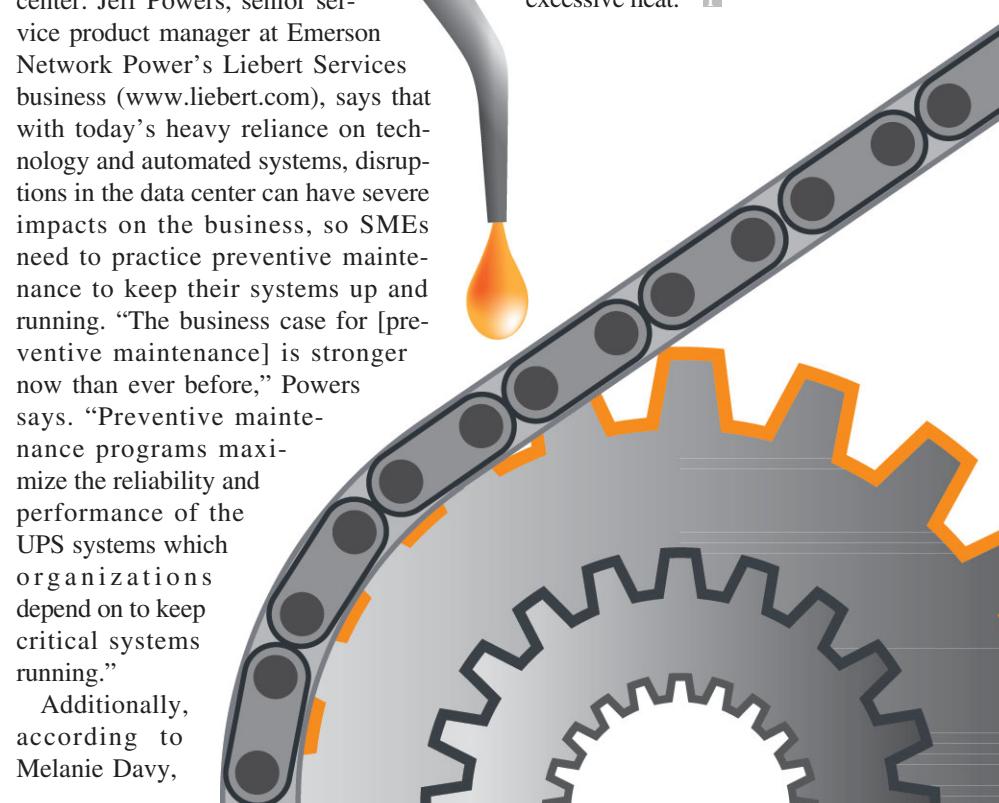
Additionally, according to Melanie Davy,

Best Tip For Beginners: Practice Active Warranty Management

The increased automation of maintenance functions presents IT department managers with new hardware issues to constantly address. However, what happens when something actually goes wrong? Allocating the manpower and hardware resources to remedy the immediate situation may be the first line of defense, but who ultimately foots the bill if you're out of warranty? According to Reean Zhang, IT Manager for AMAX (www.amaxit.com), it's important to monitor the health of your devices, but the same effort should also be applied to managing the hardware warranties that will help offset any repair, replacement, and system downtime costs down the road. "There are myriad of open-source tools that are available to automatically identify and manage your hardware warranties and send notifications when they're close to expiring," Zhang says.

research analyst with Info-Tech Research Group, managers should review their facility on a weekly, monthly, and annual basis. "Data center staff should be conducting a 'walk-around' regularly to check all equipment—fire suppression for last maintenance, sprinkler system for leaks and maintenance, [generators], HVACs, power load, etc."

Davy says hardware maintenance is about reliability and availability. In order to provide an extra layer of reliability and availability in case the first fails, standby power must also be maintained. "Check the UPS for odd smells, leakage, and excessive heat," she says. "Ensure batteries are fully charged and refreshed when required. As well, [generators] should be checked for fuel levels, battery voltage, engine coolant temperature, odd smells, leakage, and excessive heat." □



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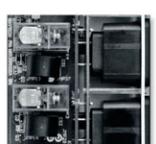
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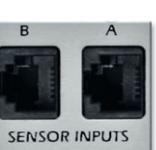
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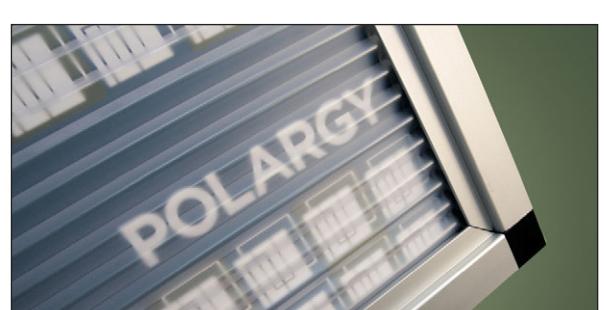
NEW PRODUCT

by Andrew Leibman

Containment Under Fire Suppression Systems

TODAY WE KNOW MOST temperature-related problems that exist in modern data centers stem from poor airflow management rather than under-capacity. And by now, the benefits of cold aisle and hot aisle containment are well understood by data center and facility managers. Polargy's air-management technology, which consists of systems for isolating the room, the racks, and the floor, can properly and safely control air within the space and allow users to dramatically improve cooling efficiency and lower cooling costs.

One of the big challenges with air management products is maintaining data center fire safety without sacrificing visibility in the aisles. Polargy's latest product, the PolarPlex Drop Away Panel, addresses those challenges. The panels are the only ones on the market with a UL listing for use under sprinkler heads. So they can be safely deployed to seal the top of a hot or cold aisle and separate cold supply air from hot exhaust air, maximizing cooling efficiency. But with



Polargy PolarPlex Drop Away Panels

Containment under sprinkler heads. Heat-sensitive panel inserts fall through to the floor in the event of a fire.

an activation temperature of 135 degrees Fahrenheit, the panels fall to the floor in the event of a fire, so the ceiling-based fire suppression system can operate free of obstructions.

The Drop Away Panels are custom made to order, and, while some competitors' products are heavy and arduous to install, Polargy's panels are lightweight and easy to install—a 2- x 4-foot panel weighs only 7 pounds.

The panel insert material is a special transparent plastic, which lets light pass through. Each panel is 0.013 inches thick and slots into an extruded 1-inch profile anodized aluminum frame.



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view a video demonstration at www.polargy.com/PolarPlexDropAwayPanels

OF SPECIAL INTEREST
TO HEALTH DATA CENTERS

Staffing Shortages Problematic For Health IT, Survey Says

According to a recent survey of 182 healthcare CIOs, IT staffing shortages will negatively affect the implementation of EHRs (electronic health records). The survey, which was conducted by CHIME (College of Healthcare Information Management Executives), shows that the greatest area of need is for clinical software implementation and support staff, which includes project managers, analysts, application coordinators, report writers, trainers, informatics staff, and technical writers; 71% of respondents needed to fill positions in this area. Other IT staff needs that respondents mentioned include infrastructure personnel (44%), business software implementation and support



staff (43%), end-user services staff (32%), and management staff (25%).

Of those surveyed, 16% had 5 to 9% of their IT jobs open and 19% had 10 to 20% open. Encouragingly, 16% have no vacancies, and a large chunk of respondents (43%) have less than 5% of their IT jobs open.

One finding of note is that smaller healthcare organizations are better off, staff-wise, than larger ones. In fact, the survey shows that as the size of a given healthcare organization rises, a higher percentage of its IT staff positions remain unfilled. In the immediate future, respondents plan to use outside consultants, quickly train employees within their own organizations, and recruit qualified personnel.

A majority of respondents (76%) also voiced concern over their ability to retain their staff as pressure to implement clinical systems continues to mount. To retain current staff, many respondents plan to offer flexible hours, telecommuting options, and staff education.

Staffing's Effects On Funding

According to CHIME, IT understaffing is a rampant problem in the healthcare industry, with some estimates putting the shortage at 50,000. This shortage also affects stimulus funding—organizations are rushing to meet the requirements of the HITECH act, yet more than 70% of respondents said they didn't have adequate staff to implement the necessary applications.

Although 39% of respondents did not believe that their respective IT staffing shortages would affect their ability to qualify for stimulus funding, 51% think there's a possibility and 10% definitely believe that the shortages will affect their ability in this regard.

Going forward, about half of those surveyed will not significantly increase their IT budgets: 26% will not increase their budgets at all, and 24% will see an increase of less than 5%.

by Seth Colaner

COVER FOCUS

Ensuring Clean, Continuous Power

Tips From The Pros For Making Sure Your Infrastructure Gets The Power It Needs, When It Needs It

by Robyn Weisman

• • •

IS IT HYPERBOLE to say that a data center needs power more than people need oxygen? The average person may think so, but the average data center manager with the slightest bit of experience probably would not. Loss of power caused by a city utility system, natural disaster, or simple human error can lead to loss of data and workplace productivity and could threaten the survival of your business.

In most cases, ensuring clean (and ideally green) power revolves around having an effective, well-designed UPS. "The UPS function can provide you with a continuous capability to ride through power brownouts and spikes, as well as give you that backup generation" when your main source of power goes out, says Mike Andrea, director at Australian-based IT consultancy Strategic Directions.

But as power needs shoot up, so do complexities within the data center, regardless of your organization's size, says Traci Yarbrough, director of product marketing for data center software solutions at Emerson Network Power (www.emersonnetworkpower.com). "If I'm the person running the data center, I'm stuck in the middle," Yarbrough says. "I need to have a solution in place that lets me maintain high availability, while responding to the increased complexities that green initiatives can impose."

It would be great just to plug everything into an outlet and move on, but that's a fantasy even for the average household. Here are some tips to make sure your power remains on, no matter what happens.

Define An Operational Maintenance Plan

Nowadays, all but the smallest data centers require you to do more than just flip on a switch or two. "You must put forth a defined managed operational maintenance plan that is properly monitored and provides continuous improvement over your efficiencies," Andrea says.

For example, he says, if you are using a static UPS, keep an eye on the environmental support for those batteries so that they are operating in the right temperature and humidity range and you get a good long life out of them.

To develop and optimize the strategies for your plan,

your facilities management group needs to collaborate with your IT department, Yarbrough says. "Bridge that information gap by putting in place a single repository for all of your planning and management data and start to determine the metrics you want to use to measure your efficiencies. You can use PUE (power usage effectiveness), DCiE (data center infrastructure efficiency), or whatever you want it to be, but get that metric in place so you can manage [your situation]."

Converge Data Points Into A Single Location

Like any other system within your data center infrastructure, your power system consists of lots of different hardware configurations that can overwhelm just about anybody and frustrate your efforts in putting together a coherent operational maintenance plan. Yarbrough explains, "You have to know the capacities of all this equipment and be able to get that information at your fingertips, but a lot of data centers today are lacking this."

Yarbrough recommends putting a system in place that allows you to access this information from a central dashboard or location. "It should let you look at the configuration [of every device] and let you map its location, tendencies, and performance," she says. "If you have something that lets you analyze information from multiple systems [so that] you can make operational decisions, you will improve your availability, ensure you have the uptime you need, and change operations to make everything more efficient."

Service Your UPS

Treat your UPS power setup with the same care you would with your heating or air conditioning in your own home and have somebody service it at least once a year, says Rob Kubik, power and cooling specialist at CDW (www.cdw.com).

Key Points

- Converge your power infrastructure data points to a single location.
- Service your power infrastructure on a regular basis.
- Make sure you have redundancy in your UPS system.

"You hear enough horror stories about units that go unmaintained and then bring everything down," he says.

Depending on the size of your UPS, you may want to install an external bypass that is associated with your power solution, such as utility power. "If your UPS does go down from a problem or maybe there is some maintenance that needs to be done, the electrician or the technician will not want too much power going through it while they are poking around. So a bypass is helpful in keeping power running to your equipment while this is going on," Kubik says.

Andrea recommends performing regular tests of the UPS function as well as the power going through it. "If you have a redundancy plan in place, make sure that that redundancy system is being tested through a regular testing regime and comes back into your operational management and operational maintenance plan that you are following," he says.

Make Redundancy Part Of Your Power Profile

In case you haven't incorporated redundancy as part of your power management profile, make it a point to do so. "You have redundant servers, hard drives, and everything else, so it makes sense to have it in terms of your power and cooling," Kubik says. "We're now seeing a lot of manufacturers coming out with UPSes that have internal redundancy, so even if you have only one UPS, it won't bring it completely down or force utility power through it. It would still be on conditioned, battery-protected UPS power." □



Best Tip For Beginners: Plan Ahead For Safe Shutdowns

Rob Kubik, power and cooling specialist at CDW (www.cdw.com), points out that UPS systems usually are equipped with the ability to shut down crashing servers in the event of a power failure. However, many admins don't remember to set up this ability so that it will run in time of need. "So many IT guys want to get an hour or two of runtime to be able to drive into the data center at 2 a.m., [but] a UPS can easily initiate that shutdown within 10 to 15 minutes, as long as it is set up ahead of time," Kubik says.

COVER FOCUS

Prevent Email Downtime

Experts Recommend Getting Rid Of Clutter & Securing Data

by Dan Heilman

WHEN A GLITCH with your ISP keeps you from accessing your home email account, most of the time it's little more than a minor inconvenience. But when email downtime strikes your data center, it can cripple the entire enterprise—data is lost, clients can't be reached, and money and productivity are inevitably lost.

Fortunately, there are numerous tried-and-true ways to prevent email downtime and to minimize the fallout when it does happen.

Implement An Archiving Strategy

Email archiving is one way to provide a strong defense against the interruptions at the enterprise level. Norman Graham, vice president

crashes. An email archive mitigates these risks, as well."

Concentrate On Front-End Efforts

There are other measures you can take on the front end to ensure smooth email performance. One is "round-trip" monitoring, which confirms that an email can be sent and received successfully through your system.

Dirk Paessler, founder and CEO of network monitoring company Paessler AG (www.paessler.com), says round-trip sensors can ensure the end-to-end delivery of emails and monitor availability and performance of the complete email delivery process.

"Round-trip monitoring works very well with [programs like] Gmail, since it operates reliably and there is virtually no downtime on Google's side, which means practically no false alarms," says Paessler, who adds that to test your own mail servers for delivery to external mail accounts, you will need a third-party, Internet-based mail account.

Depending on the backup product you use, you can restore individual email messages, folders, mailboxes, or your entire Exchange server to a live Exchange server (or individual objects directly to a personal folders file), resolving some costly and time-consuming Exchange administration challenges.

Circle The Wagons

Unsecured data can open the floodgates to worthless, if not harmful, email that can bog down your system and lead to stoppages. To combat this influx of junk email, an SME should invest in a secure email gateway product that can be implemented at the perimeter of the enterprise to block threats and remove potentially dangerous email traffic before it arrives at one of the company's addresses, according to Angelos Kottas, principal product manager at Symantec (www.symantec.com).

"It's worth investing in security technologies at every layer of your network," Kottas says. "A redundant email security solution installed on your internal groupware server can prevent the internal spread of viruses, choke off mail storms, and clean up mail stores and mail clients after an outbreak."

Consider The Cloud

Mail systems with internal servers can quickly lose continuity, and in the past, one of the few options for preventing downtime was the costly and unwieldy process of replicating mail servers.

Key Points

- Consider email archiving to mitigate the damage that email clutter can do to your system.
- Look into "round-trip" email monitoring to make sure that messages are running through the system smoothly.
- Keep in mind that a cloud-based mail server can result in a more efficient system.

However, cloud computing has introduced a new level of flexibility and removes time-consuming administrative chores. It also keeps the component parts of an internal messaging ecosystem—anti-spam gateway devices, antivirus appliances, data leak prevention appliances, etc.—from gumming up the works, according to Barry Gill, enterprise consultant for Mimecast (www.mimecast.com).

"The cloud is outside your environment, so a link failure, for instance, won't necessitate an outage," Gill says. "You won't need to fail over to redundant architecture should a simple Internet link fail, because the cloud provider should be able to do things like choose an alternate path."

James Dean, senior Exchange engineer with AppRiver (www.appriver.com), says going to the cloud can result in cost savings beyond those associated with avoiding downtime.

"Many organizations opt for cloud-based Exchange providers, since most maintain redundant network equipment and clustered email servers," Dean says. "In addition, most hosting providers offer some sort of guaranteed uptime, sometimes up to 99.99%, with a payback option if that guarantee isn't met." □

Best Tip For Beginners: Protect Yourself From Viruses

It sounds obvious, but SMEs must be sure to stay on top of viruses. Why should your data center be any less susceptible to viruses than your home PC?

One countermeasure is to train your people to be careful about where they share email addresses. "You can reduce spam and phishing volumes by being selective about the Web sites where you register your email address," says Angelos Kottas, principal product manager at Symantec (www.symantec.com). "Also, avoiding publishing your email address on the Internet."

Additionally, remember that emails are notorious carriers of viruses, such as denial-of-service attacks and other malicious attachments. Kottas suggests keeping those definitions up-to-date at all times—no exceptions.

Linux On Upward Trend

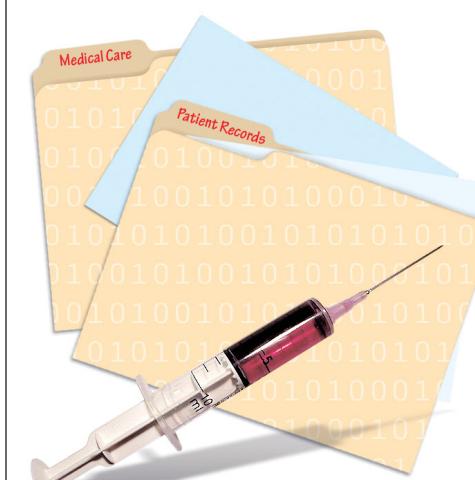
Technical superiority and security, not cost, were cited as the top reasons for an upward trend in Linux adoption, according to a study of Linux users conducted by Yeoman Technology Group. The study surveyed 1,948 business and government organizations and found that three-quarters of companies plan to add Linux servers in the next year, compared to Windows (41.2%). Two-thirds of respondents say their Linux deployments are new "greenfield" apps or services, and 70.3% are basing primary cloud platforms on the OS.

Botnets Continue To Wreak Havoc ...

The Georgia Tech Information Security Center has released its latest cybersecurity threat assessment, and its findings aren't much of a shock to anyone skimming the headlines over the past year. Increasingly sophisticated botnets continue to pose a variety of dangers and nuisances, according to the GTISC's 2011 Emerging Cyber Threats Report. Also, the physical systems automating the world's infrastructure have proven to be targeted over the past year. The popularity of social networking sites has attracted digital miscreants, too. Going forward, cell phones—and especially smartphones capable of running third-party apps—will become major targets.

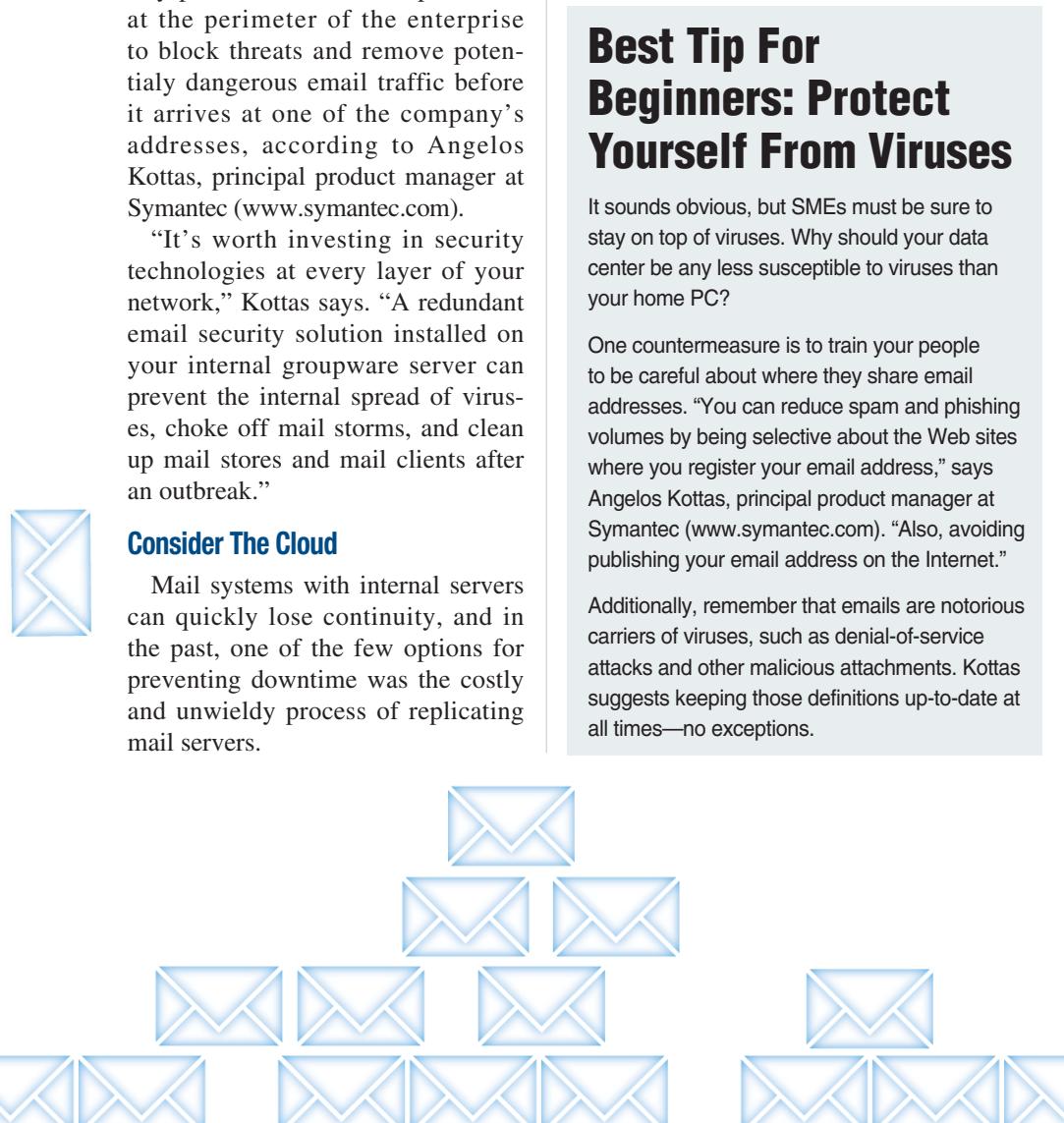
... & Microsoft Reports Botnets Are The Biggest Current Security Threat

Although there has been success at cleaning up some major botnet sources, there's still work to be done, according to Microsoft's latest Security Intelligence Report. In the first half of this year, Microsoft reports, the company cleaned more than 6.5 million computers of botnet infections. That's twice as many as the same time period a year ago. The United States has the distinction of having the most botnet infections, at 2.2 million during the first half of this year, followed by Brazil with 550,000 infections. In a blog post, Adrienne Hall, general manager of Microsoft Trustworthy Computing, says, "The good news is there are clear indications that aggressive, creative disruption efforts by the software industry, law enforcement agencies, government entities, and academics are having an impact on botnets."



Healthcare Institutions Expect IT Staffing Problems

More than 60% of healthcare CIOs believe that IT staffing deficiencies will possibly (51%) or definitely (10%) affect their chances to implement electronic health records in time to receive stimulus funding. The study, conducted by CHIME, or the College of Healthcare Information Management Executives, also found that more than 70% of organizations lack the trained personnel to implement critical records software. The CIOs also say they've had difficulty filling staff positions. Smaller organizations reported the lowest percentage of open IT staff jobs.



OF SPECIAL INTEREST
TO GOVERNMENT DATA CENTERS

News

Study Looks At Federal Agency Efforts To Consolidate Data Centers

Federal agencies have come under fire lately for the rampant growth in their IT infrastructures and for the ever-expanding number of data centers. To address the situation, Federal CIO Vivek Kundra announced in February the Federal Data Center Consolidation Initiative, or FDCCI, with the primary purpose of cutting the number of data centers, along with reducing energy usage and IT costs and increasing IT security. With federal infrastructure spending making up a third of total IT spending, the FDCCI aims to make it more cost-effective and to shift savings to IT support of mission-critical areas.

Analyst firm Input recently took a look at the initiative and interviewed federal CIOs and contractors about progress on the initiative. Input discovered that most of the large-scale efforts are underway or being planned, particularly those involving new facilities. Agencies are required to address facilities, energy, geography, and real estate in their FDCCI planning, but Input concluded that further massive physical data center consolidation projects were unlikely. Primary gains will come from IT consolidation and implementation, not the selling of real estate and energy savings.

Major Obstacles

Input says that lack of funding and inadequate planning and resources will present major obstacles to FDCCI being the pivotal program it is intended to be.

Angie Petty, principal analyst in Industry Analysis at Input, sees potential problems in the short term. "Agencies are supposed to start showing consolidation results within the next year, and FY2011 budget requests were submitted over a year ago, before this initiative even started." Agencies will have to start with their existing funding, which will slow the consolidation process, she says.

The FDCCI will prompt agencies to combine smaller server rooms and closets, aim to make larger data centers more efficient, and hurry the adoption of solutions such as virtualization and cloud computing, Input says. All of this will cut expenses. However, without additional funding, there will be only slight reductions in federal real estate and energy consumption and only modest cost savings from data center modernization with virtualization and cloud computing.

Input advises agencies involved not to move too quickly or try to do too much, which would put the stability of their data center operation at risk. Rather, take the time necessary for analysis, decision-making, and design and transition planning. Though cost savings are the ultimate goal, accept incremental reductions for now, Input says. Ultimately, Petty says, the federal government needs to provide the financial, technical, and managerial resources necessary to make FDCCI a success.

by Patrick Kean



PHYSICAL INFRASTRUCTURE

HOW TO

Delay The Need For A Data Center Expansion

What To Do When Everything Starts To Strain At The Seams

by Brian Hodge

• • •

IT'S THREE THINGS, not two, that are certain in life: death, taxes, and that this year, data centers will need to handle more than they did last year.

The difference in data quantity between now and the time your data center was built, and the resources needed to handle it, could be eye-opening. According to Brian Fry, vice president of sales and marketing at RackForce Networks (www.rackforce.com), "The rack difference we're seeing in our newest data centers is about 26 times more density over 15 years ago." Little wonder, then, if strain is starting to show.

Compounding the situation is that in the current economic climate, budgets may not have the funds to expand the data center, either physically or by upgrading to the latest generations of servers. What's left, then? To better manage your existing

while still leaving sufficient operational headroom. For instance, one database server can often absorb several separate databases, especially those with less use and traffic.

In addition, says Wilson, "One of the cheapest resources to add is more drive space on an existing server, so if you have the memory and can consolidate lesser-used applications and data storage onto a single machine, you can open up space for new development."

And, if your data center hasn't yet ventured into virtualization, now may be the time. According to figures from virtualization specialist VMware, in setups with traditional servers running a single application on an OS, the average utilization per server is just 5 to 10%. Thus, 90 to 95% of their capacity is going unused.

Creating virtual environments to run databases, business apps, e-commerce,

"The rack difference we're seeing in our newest data centers is about 26 times more density over 15 years ago."

- RackForce Networks' Brian Fry

resources and wring out every bit of performance you can.

Begin With Better Data Management

What's the No. 1 thing the average data center could do to squeeze more efficiency from what it already has? For David Wilson, director of IT services at Vector CSP (www.vectorcsp.com), the answer is simple: manage the data better.

"A great deal of efficiency in resource utilization can be obtained by simply using sound data management strategies," he says. "In the larger data centers where I've worked, there was a tendency to create redundant databases for testing and use full-sized copies to do it, to save old data, and to never clean house."

Needless redundancy doesn't just eat up storage space. It can also gobble up bandwidth, create traffic bottlenecks, and bog down servers. Thus, it's vital to devise a strict strategy for data lifecycle management or re-evaluate your current approach.

"Knowing what is necessary as live data and what can be archived, backed up, or eliminated keeps the resources that are available viable," Wilson says.

He also advocates ongoing documentation to give you a handle on your data, applications, and other resources, especially as they change and grow.

"There is no substitute for documentation," he says. "Even something as simple as a spreadsheet tracking what database instances exist, who is using them and why, and what the expected useful lifespan of that data is anticipated to be."

Consolidate & Virtualize

Tracking the usage demands placed on individual data and applications will let you spot opportunities for consolidation,

Web servers, and more side by side on the same server is often touted as a way for a company to reduce its number of servers. However, it can also be the key to running your current number of servers closer to operational capacity. For more information on virtualization, see the "Top Tips" sidebar.

Outsource It

Not everything necessarily needs to remain under your own roof. You may have

TOP TIPS

Although virtualization can help your data center run more efficiently, it shouldn't be viewed as the magical cure for everything that ails you. "You don't do it just because it seems like a great solution in the moment," says Vector CSP's (www.vectorcsp.com) David Wilson. "You virtualize only when you've checked your options and are certain it's the best solution."

If you're satisfied it's the way to go, Wilson offers these tips to make sure virtualization delivers the results you want.

- Plan carefully and create strict criteria for virtualization, because "virtual machine sprawl" can create its own headaches.
- Test first, so you can be certain that tools and resources you're combining don't negatively impact one another.
- Analyze which applications and data storage solutions require the most resources, and apportion them among your servers so as to avoid overextending any one system.
- Keep good records of resources vs. deployments so you can balance what your machines are actually capable of against what you're hoping to achieve.

Key Points

- The No. 1 thing you can do to optimize the efficiency of your existing resources is to rigorously exercise sound data management strategies.
- Tracking the demands placed on individual data and application resources will let you spot opportunities for consolidation and virtualization.
- If you must add another server rack but there's no more room in the data center, it's possible to put it elsewhere in the building, housed in a secure cabinet that also takes care of cooling and soundproofing.

storage and system functions that could be outsourced to a server hosting company.

Although Wilson doesn't recommend outsourcing any IT functionality, and feels this is better off remaining secured in-house, he identifies a few potential candidates for handing off to someone else: non-mission-critical Web sites, nonproprietary databases, and possibly some collaborative applications.

"The validating question on outsourcing for me is: If the business hosting your product suddenly went away and the data was lost, what would the impact be on the company?" Wilson says.

Expand Without Physically Expanding

If there's no way around adding another server rack, but there's no more room for it in the data center without knocking down a wall, there may be another option that doesn't involve sledgehammers. Consider installing it elsewhere in the building: a corner of a lab, a conference room wall, or some similar location.

Rackmount Solutions (www.rackmountsolutions.net) carries two lines of server cabinets designed to operate safely outside the data center. Both the UCoustic and AcoustiQuiet lines are made of heavy-duty steel, with soundproofing to keep noise down to a hum. Equipment stays free of tampering behind locked doors, while sheer mass should alleviate any further security concerns.

"It's a vault," Rudy Rangel, sales manager at Rackmount Solutions, says of the UCoustic. "You couldn't pick it up and carry it off, or even wheel it out. It's about 700 pounds. Once you put equipment in, it's not going to go anywhere."

The one installation caveat is that it needs to go in a cool room. Internal cooling relies on ambient air that's drawn in through baffles in the door and then pulled from front to back. Heat rises, of course, so the cabinet uses the chimney effect to its advantage, with dual fans sucking the hot air out the top. "It's like one big river flow," Rangel says.

"You're not going to put 30 of these in a data center. It's one of those niche products that you either need or you don't."

But when you've tried everything else, and the only other alternative is to start remodeling, this is an option worth exploring. □

BUYING GUIDE

BUYING TIPS: Power Protection



by Seth Colaner

IT'S EASY TO TAKE power protection for granted. We do it all the time in our homes, plugging expensive electronics into the wall outlet without a moment's reflection on what might happen in the event of a power surge or outage. Usually, the worst-case scenario is that a computer or HDTV gets fried and we learn a thousand-dollar lesson, but IT and data center managers can't afford to learn about power protection the hard way. They need to be prepared with the right power protection tools, such as a UPS (uninterruptible power supply), to keep their equipment and networks safe.

Brad Walter, director of applications and system development at Active Power (www.activepower.com), gives some insight into what to look for when purchasing power protection.

Buyers' Checklist

- Cost benefit analysis of higher-end UPS systems.** You can't skimp on features to save money, but it's also a disservice to be inadequately covered.
- Ensure proper maintenance.** Consider whether your UPS system is simple enough to be maintained by in-house employees or if it should be maintained by a third party.
- Reliability and availability.** Your UPS solution should be fully able to handle your entity's workload at all times.
- Suitability for the given application in the present and future.** The right UPS should have the capacity and flexibility for your needs, including the ability to handle the maximum load and accommodate future growth.

Redundancy. The first step, according to Walter, is determining the amount of redundancy you'll need to meet reliability and availability requirements. Ensuring sufficient redundancy will keep a system powered virtually no matter what.

He advises maintaining a level of redundancy that provides consistent reliability and availability throughout a system, which requires some common sense thinking. He notes, for example, that a highly redundant UPS system isn't necessarily advantageous if everything upstream and downstream is in a single path.

Reliability and availability. Regarding reliability and availability, Walter points out that you have to consider the whole system architecture and not just individual system components. He advises against paralleling UPS systems whenever possible, instead opting for a system with multiple independent power paths using large individual UPS building blocks.

Instead, Walter advocates going modular—or, in other words, breaking the load into smaller pieces. UPS modules are available in the megawatt range, so managing loads isn't much (or any) more difficult using this method than it is with paralleling.

Dealing with small space. Spatial concerns are important

Key Terms

Amp. A measurement of electrical current.

Availability. Refers to whether a system can be used at a given time.

Current. The flow of electricity through a conductor, as measured by amps.

Power. Voltage times current, as measured in watts.

Redundancy. A redundant power setup has enough extra power for a system to ensure availability and avoids the possibility of having a single point of failure.

Reliability. How likely a system is to fail. For example, power may be available but not necessarily reliable.

Voltage. The electrical potential between two points on a circuit, as measured in volts.

Watts. A measurement of power.

to consider when looking for power protection; in smaller IT environments, there simply may not be much extra space to work with at all. But even in huge data centers that span tens of thousands of square feet, space is an issue because instead of plugging in one or two pieces of hardware, it's dozens, hundreds, or thousands—added up, any one item can effectively occupy a large amount of space. □

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- Branch Circuit Protection
- NEW! Linking for Smart CDU (Expansion Modules)



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(800) 835-1515
www.servertech.com

Power Protection

Product

Active Power CleanSource UPS



Description

The CleanSource UPS from Active Power is a highly reliable, energy-efficient, battery-free UPS system that uses integrated flywheel technology. CleanSource UPS is designed to protect mission-critical data center operations from both short power disturbances and complete outages. With an energy efficiency of up to 98% and more than 77 million hours of runtime in the field to date, CleanSource creates a predictable, continuous power system designed to ride through power outages to keep critical operations up and running.

- Designed to reduce TCO by 60%
- Battery-free
- Space-efficient
- 75% reduction in carbon emissions
- Continuous voltage regulation

Best For: Mission-critical data centers that need highly reliable power conditioning and protection.

Active Power PowerHouse System



PowerHouse is a modular continuous critical infrastructure solution from Active Power that can contain diesel generators, Active Power's high-efficiency CleanSource UPS systems, switchgear, and monitoring and control software. PowerHouse offers flexibility in placement, space savings, fast deployment, and high energy efficiency to meet IT and business demands.

- Significant TCO savings
- Ideal for limited facility space
- Can be deployed in a number of environments, including the roof, redundant loading bays, secure compounds, or parking lots
- System is pre-engineered and factory-tested

Best For: Organizations that need to rapidly expand capacity in support of critical IT and business operations while reducing capital and operating expenses as compared to traditional approaches.

Black Box CAT 6 Feed-Through Protector Panels



CAT 6 Feed-Through Protector Panels from Black Box are designed to guard against power surges at the rack. The panels feature built-in, all-wire protection on each port to protect equipment and data lines from surges and electrostatic discharge. Designed to meet CAT 6 specs, they can be used in 100/1000BASE-T networks and feature 110 IDC to RJ-45 straight-wired ports. Models are available with 12, 24, or 48 ports, and all models fit 19-inch racks.

- Protect sensitive equipment and data lines from lightning strikes, power surges, and electrostatic discharge
- Panels feature a self-resetting, bidirectional 2,000W circuit
- Failsafe design destroys the port rather than the equipment
- Lifetime guarantee

Best For: Economically protecting CAT 6 equipment and data lines in the data center and telecommunications closets.

Price: Starts at \$437.95

Contact: (888) 433-5049 | www.blackbox.com

Product

Gamatronic Power+ Modular UPS System



Description

The Power+ system from Gamatronic is a parallel, redundant, modular UPS with online double-conversion. The user-upgradeable system comprises up to 10 hot-swap UPS modules of 10kVA each, a system controller, static switch module, and distribution block. Power+ is a true online battery in which the inverter supplies the power to the load and takes its power either from the AC input (via the rectifier) or from the battery. The rectifier is controlled to recharge the battery and maintain it in charged condition. The battery features a galvanized connection between the rectifier output and the inverter input on a common DC link.

- High efficiency (up to 96%)
- Small footprint
- Lightweight
- Scalable, flexible, and expandable
- Redundancy and high availability
- High mean time between failure, low mean time to recovery

Best For: Situations that call for a small, lightweight, flexible, easy-to-use UPS solution.

General Electric SG Series 60-500kVA UPS



General Electric's SG Series 60-500kVA UPS is a three-phase, online double-conversion system that features a clean input IGBT rectifier powered by PurePulse technology for optimal input and performance. In order to deliver the best possible reliability, the system operates in VFI (Voltage Frequency Independent) mode and features backfeed protection.

- Can be paralleled with up to six UPS units with GE's Redundant Parallel Architecture
- Includes full 24/7 service team support for preventive and corrective services, training, and application expertise
- Complies with EMC standards
- Front access makes maintenance and service simpler
- Fan failure detection system
- Superior Battery Management enhances battery lifetime
- Can run in Super ECO Mode to improve efficiency

Best For: Maximum protection for mission-critical processes.

General Electric SG Series 10-750kVA UPS



GE's SG Series 10-750kVA UPS is a three-phase unit that offers maximum output performance, efficiency, and functionality with a small footprint. The UPS operates in double-conversion mode; features true continuous online VFI operation with integral full load static switch and internal maintenance bypass; and includes eBoost, which is designed to cut energy use without sacrificing reliability.

- Includes full 24/7 service team support for preventive and corrective services, training, and application expertise
- 99% operating efficiency
- Fused surge protection
- Front access makes maintenance and service simpler
- Superior Battery Management enhances battery lifetime
- Intelligent Energy Management Integrated
- Redundant Parallel Architecture

Best For: Maximum protection for mission-critical processes.

PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Processor's Product Spotlight highlights options available in key data center product categories.

Compiled by Seth Colaner

Black Box CAT 6 In-Line Surge Protector



The CAT 6 In-Line Surge Protector from Black Box protects CAT 6 network equipment from lightning-induced power surges, electrostatic discharges, ground loops, and AC power interference. The protector supports network speeds up to 1,000Mbps for Gigabit Ethernet applications; can be used to protect PCs, switches, and routers; and features state-of-the art avalanche diode and thyristor technology, with low shunt capacitance to reduce signal loss.

- Protects CAT 5/5e/6 LAN interfaces against power surges, electrostatic discharges, and ground loops
- Supports 10/100/1000BASE-T networks
- Protects any equipment with RJ-45 jacks
- Includes a 10-inch ground wire and a 10.5-inch CAT 6 patch cable

Best For: Economically protecting CAT 6 equipment.

Price: \$82.95

Contact: (888) 433-5049 | www.blackbox.com

Eaton 9130 UPS



The Eaton 9130 UPS is designed to efficiently deliver reliable power protection for servers, networking equipment, telecommunications, VoIP, and security systems, as well as to protect virtualized environments. The 9130 UPS was designed with all environments in mind—network, terminal, server, or storage—to protect critical equipment from power anomalies.

- Online double-conversion design
- High-efficiency mode of greater than 95%, reducing heat and cooling costs
- Small form factor: up to 3kVA in 2U of rack space
- Supports four external battery modules
- 0.9 output power factor
- Load segment control with individual shutdown/startup scheduling capabilities
- LCD user interface

Best For: Managers looking to support a small to mid-sized data center's virtualization efforts.

Price: Starts at \$859

Eaton BladeUPS Preassembled System



Eaton's BladeUPS Preassembled System offers the company's BladeUPS solution with a more streamlined shipping and installation process. The scalable and modular BladeUPS expands power protection from 12 to 60kW (N+1) in a single 19-inch rack while reducing energy and cooling costs with its energy-efficient UPS design. All UPS modules are already installed in the IT enclosure to reduce shipping, handling, and installation costs.

- Factory pre-tested system
- Saves up to 20% in shipping costs
- Modularity and scalability allow the system to be easily moved
- Cost-effective
- Quick and easy installation process

Best For: Managers at medium-sized enterprise data centers interested in consolidating standalone UPSes to ease UPS management and enhance power capacity planning.

Price: Starts at \$28,000

Liebert GXT3 UPS



The GXT3 UPS system from Emerson Network Power's Liebert Services division is a true online double-conversion system designed to enable IT managers to pack higher power capacities into smaller spaces while maintaining high availability. The Liebert GXT3 can be installed in a rack or tower configuration and features replaceable, hot-swappable internal batteries. The 5kVA and 6kVA models require 4U of space, while the 8kVA and 10kVA models require 6U of space. Optional battery cabinets, adding just 2 to 4U of rack space, provide additional runtime via the plug-and-play connections on the rear panel of the UPS.

- True online double-conversion Liebert UPS system
- Backed by a two-year, no-hassle replacement warranty that pays for shipping for both the original and replacement unit in the event of UPS problems
- Can be purchased as part of the Liebert Power Assurance Package
- Available in 500VA, 700VA, 1kVA, 1.5kVA, 2kVA, and 3kVA models in both 120V and 230V configurations

Best For: Smaller data centers or network closets where space is at a premium.

Price: Starts at \$584

Rackmount Solutions Minuteman Endeavor UPS Battery Backup



Rackmount Solutions' Minuteman Endeavor series of UPS battery backup products delivers an online uninterruptible power supply in a form factor that can be rack-mounted, placed on the floor as a tower, or installed in a cabinet. With a power factor of 0.8 watts and available with capacities up to 3kVA, the Minuteman Endeavor series features hot-swappable batteries, rapid battery recharging, and extended runtime using external battery packs, and it's also RoHS-compliant. Outlet receptacle control for noncritical load shedding is included. The Endeavor series also includes Minuteman SentryPlus monitoring and control software and a front panel display with status indications.

- Simultaneous RS-232, USB, and SNMP communications
- Three-year warranty with up to \$200,000 in equipment damage insurance
- Manual and automatic testing
- Harmonic distortion control
- Dedicated emergency power off port

Best For: Any situation where form factor flexibility is needed.

Price: Starts at \$553

Contact: (866) 207-6631 | www.rackmoundsolutions.net

Rackmount Solutions Minuteman EnterprisePlus UPS Battery Backup



The Minuteman EnterprisePlus UPS battery backup is a family of line-interactive UPSes from Rackmount Solutions featuring a flexible form factor that can be mounted on the floor, in a rack, or in a cabinet. Other features include a 0.8 power factor; load shedding to extend the time it can support critical applications by rationing power from inactive devices; and simultaneous DB-9, USB, and SNMP communications.

- Independent battery bypass provides voltage regulation even when batteries are weak or dead
- Independent battery pack chargers
- Virtually unlimited battery pack support
- Minuteman SentryPlus monitoring and control software
- Front panel display
- Dedicated emergency power off port

Best For: Any situation where form factor flexibility is needed.

Price: Starts at \$404.60

Contact: (866) 207-6631 | www.rackmoundsolutions.net

Data Center Furniture

Product

Data Center Depot Hercules LAN Station



Description

The Hercules LAN Station has an industrial-strength, super heavy duty four-post frame and measures 84 x 72 x 36 inches. It's easy to assemble and has a 72- x 36- inch work surface, two upper shelves (72 x 24 inches), two steel legs with levelers, and three horizontal back panels.

- Shelves can hold up to 800 pounds and are adjustable in 1-inch increments
- Legs are made of 14-gauge tube steel
- Shelves are steel-reinforced and have high-density laminate
- 72-inch high frame available for the same price as the 84-inch model
- Available in a variety of sizes
- Lifetime guarantee

Best For: Data centers in need of an easy-to-assemble, industrial-strength LAN station.

Price: Starts at \$1,020

Contact: (877) 429-7225 | www.datacenterdepot.com

Data Center Depot Samson LAN Station



The Samson LAN Station features a super heavy duty cantilever frame and measures 84 x 48 x 36 inches. The work surface measures 48 x 36 inches, and the two upper shelves measure 48 x 24 inches. The Samson comes with two horizontal back panels.

- Shelves can hold up to 450 pounds and are adjustable in 1-inch increments
- Legs are made of 14-gauge tube steel
- 72-inch high frame available for the same price as the 84-inch model
- Lifetime guarantee
- Free consultation
- Available in a variety of sizes
- Optional accessories, including mobile server cart and pull-out keyboard shelves, are available

Best For: Data centers in need of a super heavy duty LAN station that is easy to adjust or expand.

Price: Starts at \$982

Contact: (877) 429-7225 | www.datacenterdepot.com

Data Center Resources Secure Cart



The Data Center Resources Secure Cart is a mobile, adjustable-height server room crash cart with a lockable compartment to house a notebook computer. Casters provide mobility, so you can easily move the cart to the target device. Users can sit or stand to perform service and then lock away their notebooks to prevent unauthorized access. An optional crash cart KVM delivers the VGA stream from any host computer to the notebook and emulates mouse and keyboard for simple access and control of connected servers, PCs, or other "headless" devices.

- Height-adjustable work surface for sit/stand capability
- Notebook storage bin closes and flips into locked position
- Optional integrated USB KVM provides for full control of target device from notebook
- Optional integrated 900VA UPS

Best For: Secure data centers.

Product

Rackmount Solutions Bravo Power Corporate Training Tables



Description

Bravo Power Corporate Training Tables from Rackmount Solutions make it easy to connect your monitor, an Internet connection, and additional peripherals to Rackmount's heavy-duty corporate training room tables by using a recessed, pop-up, or under-table power source. These tables are customizable with a variety of LCD mounts and keyboard trays and are ideal for environments where a power source on the table enhances usability and convenience.

- Choose from stock 36-, 48-, 60-, or 72-inch widths or create a custom configuration
- Common power modules used are two CAT 6 RJ-45 and two 15A/125V receptacles with circuit breaker, but modules can be interchanged to fit your needs
- Heavy-duty 14-gauge steel legs and a 1.25-inch thick laminated table surface make these units almost indestructible
- Superior strength with support for up to 900 pounds

Best For: Corporate training areas that require versatile, highly durable tables with the convenience of power built-in.

Price: Starts at \$388

Contact: (866) 207-6631 | www.rackmoundsolutions.net

Rackmount Solutions Heavy Duty LAN Rack/Computer Station



The Heavy Duty LAN Rack/Computer Station from Rackmount Solutions is designed for heavier equipment loads, with each shelf supporting more than 850 pounds. All shelves are adjustable in 1-inch increments and may be placed anywhere on the frame. This workstation features a high-quality tube steel frame and unlimited variations when combining different LAN station widths, plus corner stations.

- Fully welded four-post frame with 2-square-inch, 14-gauge steel virtually eliminates vibration
- 14-gauge steel horizontal back panels for maximum strength and stability
- Available in 36-, 48-, 60-, and 72-inch widths; 84 inches high
- 1.25-inch thick work surfaces support more than 850 pounds each
- LAN rack ships fully enclosed in a shipping crate to protect from damage

Best For: Anyone who needs shelving that can support heavy loads or flexible configurations.

Price: Starts at \$1,154

Contact: (866) 207-6631 | www.rackmoundsolutions.net

Rackmount Solutions LAN/Rack Computer Workstation



Rackmount Solutions' LAN/Rack Computer Workstation is a modular system featuring thermally fused laminate shelves, T-mold finished edges, and a high-quality tube steel frame. Each shelf supports a load of 350 pounds, and the upper shelves are adjustable in any increment.

- Assembles in about 20 minutes
- Available in 24-, 48-, 72-, and 96-inch widths; height is adjustable from 60 to 80 inches
- Neutral color complements any decor
- Knocked-down design allows for easier and less expensive transport to your facility

Best For: Anyone who wants to organize and access equipment in an office, closet, or data room.

Price: Starts at \$449

Contact: (866) 207-6631 | www.rackmoundsolutions.net

PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Blaine Flamig

Hergo UNI8436 Workstation



The UNI8436 provides a setup that combines everything a company needs to get the job done in a single, compact frame assembly.

- 11 GA metal-slotted frame measuring 84 x 36 inches (HxW)
- 36- x 30-inch (WxD) laminated desktop with articulating keyboard tray
- Two 18.5-inch deep mounting shelves with upward and downward brackets
- Leg-mounted CPU holder
- Track-mounted flat-panel arm
- Optional 60-inch long vertical cable management and 8-port power strip

Best For: Small or home offices where conserving space is necessary.

Price: \$980

Contact: (888) 222-7270 | www.hergo.com

Hergo DUO8460 Workstation



The DUO8460 Workstation offers the ultimate layout for side-to-side collaboration by providing a 60-inch wide workstation area that also offers ample extra storage space above and below the desktop area.

- 11 GA metal-slotted frames measuring 84 x 60 inches (HxW)
- 60- x 30-inch (WxD) laminated desktop area with two under-the-desk keyboard/mouse trays
- Two 60- x 18.5-inch (WxD) mounting shelves with upward and downward brackets
- 30- x 25-inch (WxD) standalone floor (pull-out shelf upgrade is available)
- Two track-mounted flat-panel arms
- Vertical and horizontal cable management
- Optional storage compartments and side and modesty back panels

Best For: Two-person home and office environments.

Price: \$1,795

Contact: (888) 222-7270 | www.hergo.com

Office Organix Viking Banana Table Lite



The Banana Table Lite, manufactured by Viking Acoustical and offered by Office Organix, is a dual-surface workstation that allows independent height adjustment of both the front and rear surfaces with the touch of a button. The Banana Table features a steel-constructed base and a cable management trough on the rear surface for organizing wires. In addition, the Banana Table features a durable laminate work surface that can be constructed in several laminate colors.

- Supports up to 450 pounds of equipment on each surface
- Surface measures 71 x 48.5 inches (WxD)
- Quiet electric motor with push-button operation
- Adjusts from 28 inches to 48 inches in seconds
- Custom top sizes available upon request
- Extended sit-to-stand range option available with 25- to 50-inch range

Best For: 911 dispatch/emergency centers, IT support centers, research laboratory environments, and technical control centers.

Price: Starts at \$2,999

Rackmount Solutions Recessed Monitor Corporate Training Tables



Rackmount Solutions' heavy-duty Recessed Monitor Corporate Training Tables allow plenty of surface space for manuals and workbooks while giving users lines of sight to the moderator and any video instructions being displayed in the front of the room. These tables are customizable with a variety of LCD mounts and keyboard trays.

- Choose from stock 36-, 48-, 60-, or 72-inch widths or a custom configuration
- Dropped monitor platform is on a 22% angle, 4 inches in front and 7 inches in back, for clear view of instructor
- 14-gauge steel legs and a 1.25-inch thick laminated table surface make these units almost indestructible
- Table adjusts from 26 to 32 inches high to accommodate various employee heights
- Includes out-of-sight cable management under the table surface

Best For: Corporate training areas that require versatile, highly durable tables that must cater to multiple users and frequent ergonomic adjustments.

Price: Starts at \$308

Contact: (866) 207-6631 | www.rackmoundsolutions.net

Uptime4u Anthro Elevate Electric Lift Corner Dispatch Console



The Anthro Elevate Electric Lift Corner Dispatch Console available from Uptime4u utilizes the space-saving design of a corner console combined with the ergonomic benefit of an electric-lift adjustable-height unit. Six or more flat-panel monitors can be fully utilized while keeping everything within easy reach of the user. Network cables are efficiently routed to prevent work surface clutter.

- Fits true to corner and utilizes every inch of wall space
- Console height adjusts quickly and quietly at 1.5 inches per second
- Maximum flexibility with keyboard/mouse platform that swivels, tilts, and moves in and out and up and down
- Sturdy steel legs are mounted solidly to base and frame

Best For: Data centers, control rooms, computer rooms, and dispatch and 911 centers where users need ergonomic adjustability and modular design in a heavy-use environment.

Price: Starts at \$3,500

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FEATURED PRODUCT

Simple Network Infrastructure Control

Infoblox Offers A Clear View Into Network Environments For Management & Monitoring

by Robyn Weisman

• • •

SANTA CLARA, CALIF.,-BASED Infoblox understands that network infrastructure control is becoming more strategic than ever before because network infrastructures have become increasingly dynamic. "There is a proliferation of users, devices, systems, applications, [and] new technologies like virtualization coming along, and the network scale and complexity is rising at a time when network management resources are being cut, people and budgets are being cut," explains Kevin Dickson, vice president of product management at Infoblox (www.infoblox.com).

Given this situation, centralizing the management of your network infrastructure and automating aspects



of it makes a lot of sense. And recently, Infoblox released a new software product that provides data center managers with this type of tactical monitoring. Called the Microsoft Management Module, this agentless solution works with existing Infoblox DNS and DHCP infrastructures or Microsoft DNS and DHCP servers to supply flexible and powerful IPAM (Internet Protocol Address Management) and improve visibility and reliability of DNS and DHCP servers. The module leverages Infoblox's Grid technology, which lets data center managers consolidate, automate, and distribute multiple servers and appliances into a centralized platform and monitor data in real time.

Addressing Growing SME Needs

Infoblox developed Microsoft Management Module in response to many of its SME-range customers that were feeling pain points when their networking tools increasingly could not handle their IT needs. "A lot of [SMEs] start off small and will have maybe one or more Microsoft servers that provide their address management, DNS services, and things like that," Dickson says. "When they grow, they add some additional servers, which may be distributed, as in the case of a retail business."

Previously, these businesses could get away with a combination of existing DNS and DHCP tools that come with Microsoft Windows servers, spreadsheets, and other

homegrown management tools. However, this hodgepodge of static tools becomes untenable as data center managers become responsible for additional servers, both physical and virtual, and need a more coherent and dynamic infrastructure control strategy.

Microsoft Management Module is used as an overlay on top of the existing Microsoft Management server infrastructure organizations already have in place, Dickson says. "It provides a powerful methodology to [gain an] overview of all of the services from these disparate servers," he explains. "It gives them a Web interface to manage everything that's happening with their servers, and it also sucks up the information from them, [giving them] dis-

aster recovery capabilities. If a server goes down, [Microsoft Management Module] lets them

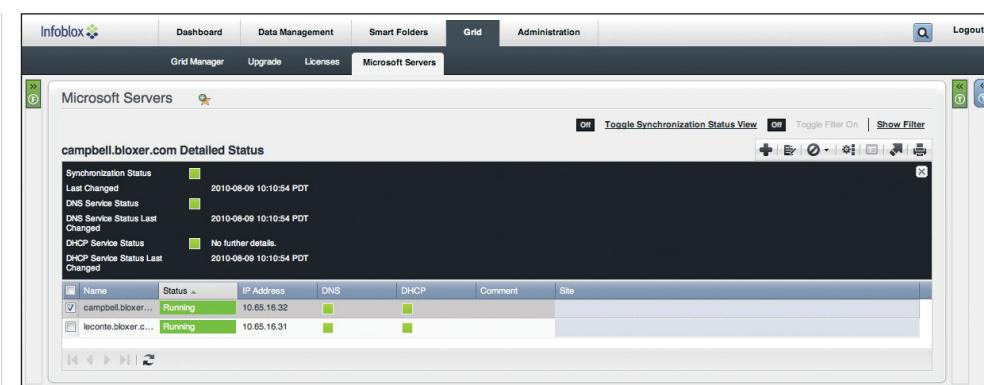
repopulate that server as it comes back up from the database on the appliance."

Improving Control While Preserving Your Infrastructure

According to Dickson, competing solutions typically take a client-based approach, "When you have to load a client onto each Microsoft server you want to manage, you open up issues around compliance, security, and stability of these servers because you are adding this third-party piece of software," Dickson says. "And if your servers are spread across branch offices, retail outlets, and other geographically remote locations, it would be a challenge even to deploy [client-based] software."

In contrast, Microsoft Management Module uses Microsoft's native protocols. "We preserve your current Microsoft DNS and DHCP infrastructure while allowing you to gain that extra level of control over your IP address space," Dickson says.

Microsoft Management Module accomplishes this in several ways. First off, Microsoft Management Module replaces manually updated spreadsheets and moves that information into a database repository. Moreover, if you are running more than one Infoblox appliance in your core infrastructure, you can take advantage of Infoblox's grid technology for high availability and



The Microsoft Management Module from Infoblox gives admins centralized control over their network environment.

resiliency. "This helps you meet compliance regulations you may not be meeting at the moment and obviously makes reductions in business risk and IT efficiency in your existing infrastructure. And, you are getting increased visibility into your IPAM environment while reducing your labor costs," Dickson says.

Infoblox is a gold-certified partner of Microsoft, and Dickson cites this alliance as a key factor in Microsoft Management Module's efficacy. "We worked closely with Microsoft on [Microsoft Management Module] and implemented Microsoft's native protocols so that the module communicates with your Microsoft servers using RPC (Remote Procedure Call)," Dickson says. "Then we provide security on these links using Microsoft's NTLMv2 protocol, which is its highest level of service security communications protocols. This makes [Microsoft Management Module] as native as possible to the scenario and very easy to deploy."

Quick-Start Usability & Enterprise Power

So how easy is it to deploy Microsoft Management Module? "We provide a single-page quick-start guide with it, [similar to what] you would find if you bought something for your home Wi-Fi or printer," Dickson says. "As long as you have the supported code, it's just a matter of turning on the feature and providing the server's IP address. You enable the module on your Infoblox appliance and point to the IP addresses of the Microsoft servers that you are managing, and that is literally it."

The module's single Web-based user interface employs templates to segment unit

testing. "This way, we can make it role-based," Dickson says. "It's easy to transfer skills associated with this because we put a huge focus on this module's usability."

Through its automation capabilities, Microsoft Management Module connects the managed Microsoft servers with your Infoblox appliance or appliances so that they act as a unified system, Dickson says. "This centralized management from that single Web-based GUI combined with our appliances and our Grid architecture gives you 99.999% availability," he says, adding that although an SME would usually have to balance power against ease of use, Microsoft Management Module offers both. □

INFOBLOX MICROSOFT MANAGEMENT MODULE

(866) 463-6256
www.infoblox.com

- Description:** An agentless module that offers centralized management and maintenance of Microsoft DNS and DHCP environments, with automated IP address management capabilities, automated disaster recovery, and detailed audit logs, among other features. Designed for Infoblox appliances.

- Interesting Fact:** Infoblox was started in a small office over a Tae Kwon Do studio in Chicago. Since the company's move to Silicon Valley, it has established a dojo at every office it has occupied. Currently, the company boasts more than 50 black belts among its staff.

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PDUs Direct To You

Top Quality At The Lowest Price Available

by Blaine Flamig

PREMIUM POWER DISTRIBUTION without the premium price. Such a notion may sound too good to be true in today's sagging economy, but such an approach is precisely the customer-oriented mission PDUs Direct (www.pdusdirect.com) was built on and continues to operate by.

As the online wholesaler of basic, metered, and switched PDUs from long-time PDU maker Server Technology's product line, PDUs Direct is dedicated to providing its customers the highest quality in-rack power strips, power distribution, and rack PDUs offered at best-in-class prices.

Established in November 2008 at the outset of the economic downturn, PDUs Direct understands the financial, cost-cutting challenges now facing SMEs. That's why PDUs Direct is committed to supplying its customers with industry-standard, industrial-grade PDUs suitable for network and server environments at prices falling 10 to 20% below competitors' online prices. PDUs Direct's customer commitment extends

to the company's easy-to-use, uncluttered Web site, which makes locating the right PDU a quick, streamlined process without skimping on the pertinent product information customers require.

PDUs Direct's dedication to its customers is seen through its next-business day shipping policy; 100% satisfaction, 30-day money-back product guarantee; and ultra-convenient email and live chat technical support options. Whether the question or concern is in regard to a product, order, or application, PDUs Direct's chat support pairs customers with live operators who possess years of real-world PDU experience and knowledge. Customers can even request a chat transcript for reference following a chat session.

PDUs Direct power distribution units are constructed in steel-case enclosures, available in a variety of outlet and power-level configurations, and ship with a customer-selected power cord. Each switched PDU sold also includes the latest firmware from Server Technology and fully networked outlet management and power and environmental monitoring abilities. □

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Georgia Tech Security Summit Determines Primary Threats

A national summit consisting of 400 cybersecurity and academic leaders met to determine the top three security risks for both consumer and corporate Internet users. The GTISC (Georgia Tech Information Security Center) Security Summit on the Evolving Nature of Cyber Security Threats released its Emerging Cyber Threats Report for 2011 and deemed the following security issues as the greatest threats: increasingly sophisticated botnets, social networking and mobile applications, and physical systems as targets.

According to Mustaque Ahamad, director of GTISC, these three threats are paramount for several reasons. "Botnets, where cyber-criminals compromise large numbers of computers and organize them with a command-and-control structure to carry out malicious activities, have been one of the key cybersecurity threats recently. The first concern is the growing sophistication of botnets which will make their detection, attribution, and dismantling very hard," Ahamad says.

"The second concern is that traditional threats that have targeted laptops and desktops in the past will migrate to smartphone-like devices that we all carry with us. Sensitive data that will be stored on such devices will be the target of such threats," Ahamad says. "Finally, malicious software or malware finding its way to computers that control physical devices will be a major concern."

Additionally, Ahamad says, "Usable security, where security can be provided without negatively impacting the user experience, is still an area where much work needs to be done."

A Community-Based Defense

Moving forward, users, government, security specialists, and technology vendors must take responsibility to be vigilant in the fight against proliferating attacks.

The numbers don't lie: Security researchers are discovering about 100,000 new malware samples each day, according to the GTISC report. McAfee released data revealing that the first half of 2010 was the "most active half-year ever for total malware production." Symantec also reported in August that spam originating from botnets had increased by 95%.

In order to increase user awareness of online threats and improve IT security practices, Ahamad says leaks must be contained even as the infrastructure maintains protective measures. "As the platforms that enable access to sensitive enterprise data expand to include mobile devices, IT managers will need to ensure that data accessed at these devices will not be captured and leaked by unauthorized applications," Ahamad says. "Thus, in addition to securing information at the data center, they need to focus on edge devices where it may be consumed."

by Joanna Clay



FEATURED PRODUCT

Powerful Network Switches

TRENDnet's Web Smart Power Over Ethernet Switch Makes Intelligent Use Of Ethernet Cabling

by Holly Dolezalek

• • •

IT'S A PROBLEM as old as electricity: What do you do when you need to put a device that needs power in a place that has no power? Especially when you're installing wireless access points or IP telephones or using point-of-sale devices on warehouse floors, the device/power mismatch can be a real obstacle. One solution to this problem that has been gaining in popularity is power over Ethernet, or PoE. TRENDnet, a networking company in Torrance, Calif., offers several PoE switches, including one of its most popular: the TPE-80WS 8-Port Gigabit Web Smart PoE switch.

Power Over Ethernet

Power over Ethernet allows data and electrical power to be passed over cable to devices. It's used to power devices like IP telephones, wireless LAN access points, surveillance cameras, and other hardware, which plug into and draw power from a

Wood says that the company's PoE products, including switches, splitters, and devices such as IP cameras and wireless access points, are a growing segment of its business. That's because more and more customers have a need to install devices where power isn't available or where installing it would be expensive.

Web Smart PoE Switch

The TPE-80WS is one of five PoE switches that TRENDnet offers. It has eight Gigabit Ethernet ports with jumbo frame support and port mirroring. It has network management, link aggregation, VLAN, trunking, and QoS technology.

The switch complies with the IEEE 802.3af standard, which allows for 15.4 watts of power for each port. "A lot of PoE switches out there don't actually provide the full 15.4 watts," Wood says. "The power supply and the chipset design have to be more robust in order to handle all that power, which often means a greater cost, so there are switches out there that don't offer the full 15.4 watts per port that this one does."

®

Unlike other switches, Wood says, the TPE-80WS has another feature that users find extremely helpful: a set of diagnostic LEDs on the front of the unit. There are LEDs for individual port status (including PoE class and maximum power allocation) and for system planning, which display the total balanced system power. The display shows the amount of power running through the device and how much power remains for devices that the user wants to plug into the switch. "These switches have a lot of power running through them, and the front of the unit has a display showing how much power the unit can send out," Wood says. "If you have five devices plugged into a PoE switch, without that display, it's hard to be sure how much power is left to power other devices that you want to plug in."

The switch also has Web Smart functionality, which means a Web-accessible GUI that allows users to manage the switch from any location and perform configuration, monitoring, and maintenance functions. Through the GUI, users can warm-reboot the unit, reset the configuration to factory default, monitor traffic through each port, and set configuration parameters, among other tasks. That functionality, Wood says, is part of what makes the TPE-80WS attractive to SMEs.

"Customers like it for its ability to do trunking, create virtual LANs, and monitor the switch, and all of that can be managed within the GUI relatively easily," Wood explains. "Even an admin who isn't the most technical can navigate it pretty well because the GUI means you don't

TRENDNET TPE-80WS 8-PORT GIGABIT WEB SMART POE SWITCH

(888) 326-6061
www.trendnet.com

- Description:** The TPE-80WS is a Power over Ethernet switch that has eight Gigabit Ethernet ports and can deliver up to 15.4 watts per port to power IP surveillance cameras, phones, wireless access points, and other low-power devices. The switch delivers power through the same Ethernet cabling that it delivers data.

- Interesting Fact:** Even non-PoE switches can power PoE devices through the use of a PoE injector, which combines electrical power with a Gigabit network data signal to produce a Gigabit Power over Ethernet signal.



have to manage with an old-school command interface."

TRENDnet offers another Web Smart PoE switch that features 24 10/100Mbps ports, four Gigabit ports, and two mini-GBIC slots. Its other PoE switches are unmanaged and don't have the Web Smart functionality.

Wood explains that although PoE devices can be powered using the TPE-80WS, even non-PoE devices can plug into the switch with the TPE-112GS, a PoE splitter that separates the PoE signal into power and data sources.

Distributing Power Everywhere

Wood says that many users of the TPE-80WS, and TRENDnet's PoE switches in general, are in industries where large facilities are common, such as healthcare and government installations. Phone systems work well with PoE voice applications, as do IP camera installations and wireless network access points. But another common use of PoE is in warehouses, and Wood explains that many buyers of PoE switches use them for point-of-sale systems. "When employees are on the floor using PoS systems to log boxes in and out, they're often using wireless devices that communicate to the database when products are coming and going," he says.

But any company with a need to install wireless access points may be interested in PoE, regardless of industry, because of the option to avoid installing a lot more electrical wiring to power those points. "A company that is retrofitting an older building may find that it's much easier and less expensive to run PoE cables above the ceiling tiles," he says. □

TRENDnet TPE-80WS Features

- Full wire-speed non-blocking reception and transmission
- Store and forward switching method
- 144KB RAM data buffer
- IEEE802.3x flow control for full-duplex mode; back pressure flow control for half-duplex mode
- Supports integrated address look-up engine, automatic address learning, and address aging
- Supports IEEE 802.1Q Tag-VLAN, IEEE 802.1D Spanning Tree, IEEE 802.1w RSTP, and IEEE802.1x (MD5)
- Port-Mirroring and IGMP Multicast functions
- Diagnostic LEDs on front panel

Virtualization: What Not To Do

Watch Resources, Application Support To Ensure Success

by William Van Winkle

VIRTUALIZATION IS now so common in the enterprise that managers and executives increasingly run the risk of leaping before they look into a proper deployment. Here is a collection of cautionary advice that, when heeded, can keep your SME out of IT trouble and help smooth the way into greater virtualization productivity.

Check Application Behavior

By now, when it comes to hypervisor compatibility, most operating system issues

Key Points

- Test a line of business applications in a virtualized environment under production conditions. They may not behave in the same way when virtualized as they do on bare metal.
- Put virtual systems through the same rigorous validation and compliance processes employed when purchasing physical systems.
- Be cautious of getting locked into a single-vendor virtualization scenario. While there may be compatibility and support benefits, this can also leave companies exposed to unnecessarily high licensing rates.

have been mopped up, but applications may be a different matter. Their behavior may change in a virtualized server environment. Failure to fully test virtualized applications in a production environment before deployment is just asking for a nightmare. Real-world peaks in disk access or constrained network bandwidth may be more than the virtualized app can bear.

"I have a dot-com retail client that wanted to virtualize," says Stephen Fink, director of the infrastructure service line at Avanade (www.avanade.com). "They loved the idea of [a] lower cost of ownership and

being able to right-size their retail environment as cyclical demand changed throughout the calendar year. But we took a look at their highly customized, Internet-facing front-end application and found that all their customization was really not going to lend itself to a virtualized setting. Fortunately, we helped them identify this gotcha prior to going through a virtualization program. If we hadn't, their application would have fallen on its face once a certain user threshold was reached."

Fink points out that the problem never materialized in nonvirtualized settings, only when virtualized. Ultimately, the problem lay in the app's storage I/O requirements.

A VM Is Still A System

A virtual machine acts like its physical server counterpart, and that's what matters. When a new physical server enters the enterprise, it needs to go through all of the usual procurement, validation, compliance, and other procedures. With virtualized systems, though, these processes are often overlooked.

"With virtualization, it sounds easy to put up a new machine," says Andy Cathrow, product manager, Red Hat Enterprise Virtualization at Red Hat (www.redhat.com). "Anybody can do it. But the governance is lacking. You need to make sure that you have the same level of policies, governance, and compliance applying to virtual machines that you have applying to physical machines, including things like software licenses and patching. Otherwise you can run into trouble."

Watch For Under- Or Overutilized Hardware

When virtualizing systems, resource utilization doesn't necessarily translate in clean ratios. A given physical server might be able to hold 10 virtual machines for a certain application type but only three VMs based on a different app. If managers have overtaxed physical servers and they

upgrade their hardware and then misjudge the utilization of their VMs, they might find themselves even worse off than where they started.

Conversely, underutilized hardware before virtualization may still be underutilized after. "The sizing on a physical server may not translate to a virtual server," says Avanade's Fink. "There may be a lot of overcapacity that's never going to get used even before virtualizing. Going virtual just amplifies that challenge."

In a related vein, Laura Hansen-Kohls, research analyst for market analysis firm Info-Tech Research, points to overutilization of storage as a common weak point in virtualized desktop deployments.

"A lot of people are talking about boot storms, these instances where multiple VDI sessions are started at the same time," she says. "This is especially taxing on shared storage. Right now, a number of storage vendors are introducing new or improved features to help handle large scale VDI deployments from the storage side—autotiering, using solid-state drives, that sort of thing. These things can help solve virtualization storage bottlenecks, so don't ignore them. Just know that these improvements cost quite a bit of money."

Understand How The Technology Has Improved

Despite now being entrenched in enterprises, virtualization still carries a few fading black eyes from its earlier years. Users and even some managers may not understand if and how technologies have changed. This can apply across a wide range of virtualization facets, from security

to compatibility to performance. Info-Tech's Hansen-Kohls points out how even just the specter of "desktop virtualization" can still put off users, regardless of how the technology has improved.

"I spoke to one gentleman in a fairly large insurance company who actually did a good job of communicating to his employees what was going to happen with their desktop virtualization deployment," she says. "But because there had been so much negative buzz for end users around desktop virtualization, he had to do all of this creative marketing internally. He had a whole series of these clients in a laptop form factor. People wouldn't touch them with a 10-foot pole—until he started calling them 'webbooks.' Then all of the sudden everybody wanted them. I've heard this more than once from different people and companies. It doesn't matter the industry, size, or whatever. It's about creative marketing."

Look Beyond The Servers & Desktops

Conventional data center systems get most of the virtualization spotlight, but be aware that virtualization can be applied in other ways. For example, it's possible to virtualize not only the servers and desktops in a branch office but also the location's VPN, firewall, and router. The same approach can also be applied back in primary enterprise locations, especially for disaster recovery. If a big chunk of network infrastructure is virtualized on x86 hardware, switching and routing can failover to a backup location, eliminating the need to maintain those functions in the form of physical appliances at either location. □

nMETRICS APPLICATION MONITOR 6001

NEW PRODUCT

by Kris Glaser Brambila

Midsized Network? Here's A Solution For Better Management & Control



Application Monitor 6001

A hardware-based application monitoring solution designed to help medium-sized businesses manage network performance.

nMETRICS' SERIES of application monitors is designed to help your business better manage its network and application performance, making it easier to tackle network issues and, ultimately, save valuable time and money.

The Application Monitor 6001 can connect with up to 50 subnets, making it ideal for medium-sized businesses, says Steve Urquhart, co-founder of nMetrics. "The AM6001 is an ideal product for midsized organizations that still have many of the same network problems as the big ones," he says.

The AM6001 is installed in the core of the network and can monitor WAN and LAN segments, giving users a

comprehensive view of their network's performance. It can be used as a stand-alone unit or integrated as part of a distributed application monitor installation.

As a hardware-based system, the AM6001 can track all network traffic flows—including source and destination addresses; application, conversation, and host types; trends and traffic growth; latency measurements; and device availability—and log it into a database where users can create and review customized reports that help them make informed network decisions. "It is affordable, easy to use and deploy, and allows operators to quickly identify issues," Urquhart says.

The AM6001 includes eight 10/100/1000 Ethernet ports, 4GB of RAM, and 250GB storage. The AM6001 can also integrate with your existing infrastructure without risk and provide reports for Citrix, Oracle, SAP, Microsoft Exchange, VoIP, and more. The AM6001 is most often installed in an offline position by connecting it to a switch mirror port or network tap. Alternately, it collects traffic via NetFlow or other flow variables. It can also collect from the mirror port and NetFlow, in the one appliance.

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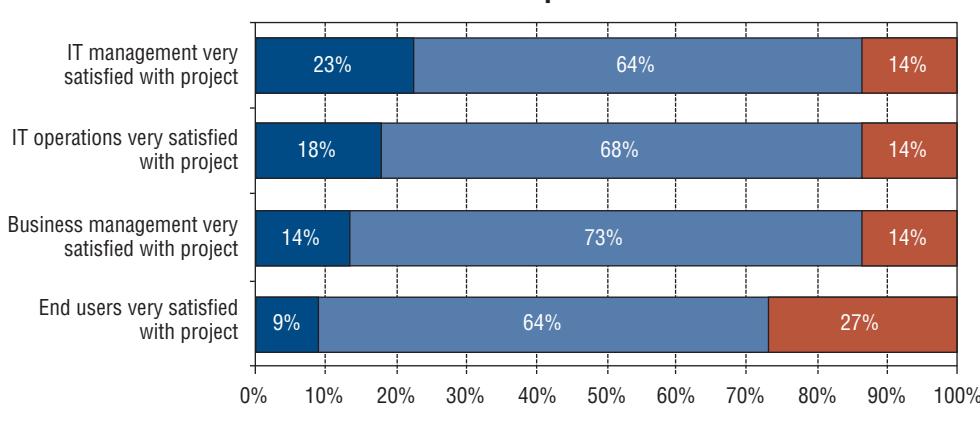
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Virtualization Satisfaction

While most IT staff and end users are satisfied with desktop virtualization, this survey data from Info-Tech shows that there's still room for improvement, particularly for the users. One of the principal causes of user frustration could be a reduction in system performance.

Satisfaction in DV Implementation



FEATURE PACKAGE

Boost Your Data Center Management Skills

Becoming a better manager might be easier than you think. We have information on boosting your skill set, building a solid staff, and more.

IT Skills In Demand | 24

■ Like technology itself, IT skill needs are ever changing. Here's what's on the scene as we look forward to another lively tech year.

Bolstering Business Knowledge | 26

■ As IT increasingly becomes an integral part of the business, IT managers must learn how to navigate in the traditional business world so they can effectively convey IT's input to business decisions.

Building The Data Center Staff | 26

■ One of the most important jobs for a data center/IT manager is hiring and building a staff with the right mix of skills and knowledge to help the enterprise succeed.

Boost Your IT Skills | 28

■ With so many IT training choices, it's often difficult to decide which one is best for you. Consider the following tips as you investigate which approach makes the most sense to you.

IT Skills In Demand

As Technology Setups Change, IT Departments Need Fresh Talents In Addition To Traditional Skills

by Elizabeth Millard

LIKE TECHNOLOGY ITSELF, IT skill needs are ever changing—just witness how COBOL programmers were hot commodities, then hot potatoes, and are now edging back into the game. There are traditional skill sets that are never likely to fade, such as security, and certifications may look the same over the past few years, but there are also new areas such as e-discovery coming up fast in terms of demand. Here's what's on the scene as we look forward to another lively tech year.

E-Discovery

Potential litigation is a danger for any enterprise, and with the amount of data stored electronically, IT will play an increasingly important role in how that data is created, saved, and retrieved. One of the largest areas for concern is social

technology and networking skills if it's implementing a private cloud.

IT employees buffing up cloud computing skills are likely to have knowledge of security and access issues, cost management and ROI, and vendor selection. As cloud computing grows, enterprises are likely to look for IT staffers who can document the constraints of using these systems; evaluate vendors based on benefits and costs; and deal with legacy systems, redundancy mechanisms, and service-level agreements.

Project Management

There may have been a time when organizations took risks with deployment or simply threw money at initiatives and did planning later, but don't count on CFOs and IT managers going back to those days. The recession has caused enterprises of every size to implement projects that can show ROI and are extensively planned out before implementation, according to Linda Leung, who analyzes industry trends for IT training firm Global Knowledge (www.globalknowledge.com).

In a recent report, she noted, "Project management skills often appear in top 10 skills lists, perhaps because some organizations got their fingers burned in the 1990s through the poor implementation of IT projects such as enterprise resource planning initiatives." But even though the skill set is well-established by now, project managers still have work to do to advance their status within organizations, Leung believes; specifically, they need to focus on developing their people skills and organizational leadership. But those who can show expertise in those areas and shepherd projects through to ROI will be invaluable to their enterprises.

Security

Another rock-solid skill set is security, and for good reason. According to security firm Symantec (www.symantec.com), enterprises are targeted through more traditional routes, such as email and social engineering, and increasingly through social networks, as well. This new battlefield will only get more heated, the firm has noted, as malware authors exploit sites such as Facebook, Twitter, and Foursquare.

An area for growth in terms of security skills will likely be Web site security, says Michael Shema, security research engineer at Qualys (www.qualys.com). "As much as businesses focus on security for their network perimeter, they must



also focus on their Web site's security," Shema says. Even if a site doesn't have a database back-end with credit card information, he adds, a compromised site can be used to distribute malware, execute malicious script, or launch phishing attacks. IT professionals who can blend Web site security into their mix of skills shouldn't have trouble finding a use for those talents now and in the future.

Networking & Help Desk

Even though security and project management are in high demand, nothing beats the need for skilled networking professionals. According to a recent report from recruiting firm Robert Half Technology, the functional area cited as most challenging to fill was networking, followed by applications development and security.

When asked which technical skill set is most in demand within their IT departments, the CIOs surveyed ranked network administration first. Desktop support came in second, followed by Windows administration. In general, the need for these skills, as well as newer ones such as cloud computing, indicate a move toward more hiring and retention strategies.

"Many technology executives are feeling optimistic enough about business conditions to add personnel," noted Dave Willmer, executive director of Robert Half Technology, in the report. "Companies that cut staff levels or implemented hiring freezes during the downturn are realizing they need employees now to help upgrade IT systems and prepare their firms for potential growth." **P**

In-Demand Certifications

According to Foote Partners (www.footepartners.com), these are some of the certifications (listed in alphabetical order) that are resulting in higher pay for those who have them:

- Cisco Certified Design Professional (CCDP)
- Cisco Certified Internetwork Professional (CCIP)
- Cisco Certified Network Professional (CCNP)
- Citrix Certified Enterprise Administrator (CCEA)
- CompTIA Security+
- HP/Accredited Systems Engineer (ASE)
- IBM Certified Administrator - SOA Solutions: WebSphere Process Server
- IBM Certified Systems Expert - pSeries and AIX 5L
- Microsoft Certified Database Administrator (MCDBA)
- Microsoft Certified Professional (MCP)
- Red Hat Certified Security Specialist (RHCSS)
- Red Hat Certified Technician (RHCT)
- SAS Certified Advanced Programmer
- VMware Certified Professional (VCP)

media, and businesses should be prepared to protect themselves rather than rely on social media companies to comply with subpoenas, notes Adam Sand, general counsel at ZL Technologies (www.zlti.com).

He believes enterprises need to take it upon themselves to manage compliance and be prepared if an e-discovery challenge presents itself. Although legal teams and e-discovery software firms can be helpful in the face of litigation, it will come down to IT to create preventive strategies and take a lead role. Because of this, expect e-discovery skills to be more highly valued in the near future.

Cloud Computing

Another area for skill growth is cloud computing, which demands strategic management skills if an enterprise is working with an outside vendor and

Key Points

- Familiarity with newer technologies such as cloud computing and e-discovery can be helpful in creating a more robust IT department.
- Traditional skill sets such as security, networking administration, and desktop support remain in high demand.
- Indications are good that companies that cut staff levels in the past few years are now looking to hiring and staff retention to help run and upgrade IT systems.



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FEATURE PACKAGE

Bolstering Business Knowledge

Learn The Corporate Ropes To Ensure The Flow Of Communication Between Business & IT

by Sixto Ortiz Jr.

• • •

AS IT INCREASINGLY BECOMES an integral part of the business, IT managers must learn how to navigate in the traditional business world so they can effectively convey IT's input to business decisions. However, many technical managers who have flourished in the technical world may find this necessary transition uncomfortable. The key to successfully stepping out of the technical comfort zone is for IT professionals to boost their business knowledge and management skill set. Here's how.

Knowledge Is Power

Before IT professionals can boost their business and management skill sets, they must be able to identify the business areas in which they are lacking, as well as those areas in which they are more comfortable.

Many truly tech-centric individuals are lacking in interpersonal skills, says Daniel Curry, head geek at Indy's Computer Geek (www.indyscomputergeek.com). Soft skills are what make it possible to convince a disappointed subordinate to do what they want to do, without threats. In fact, says Curry, one of the most critical skills for success in business is hiring the right person for the job. Getting the right resources in place, he says, is critical to ensuring chances for

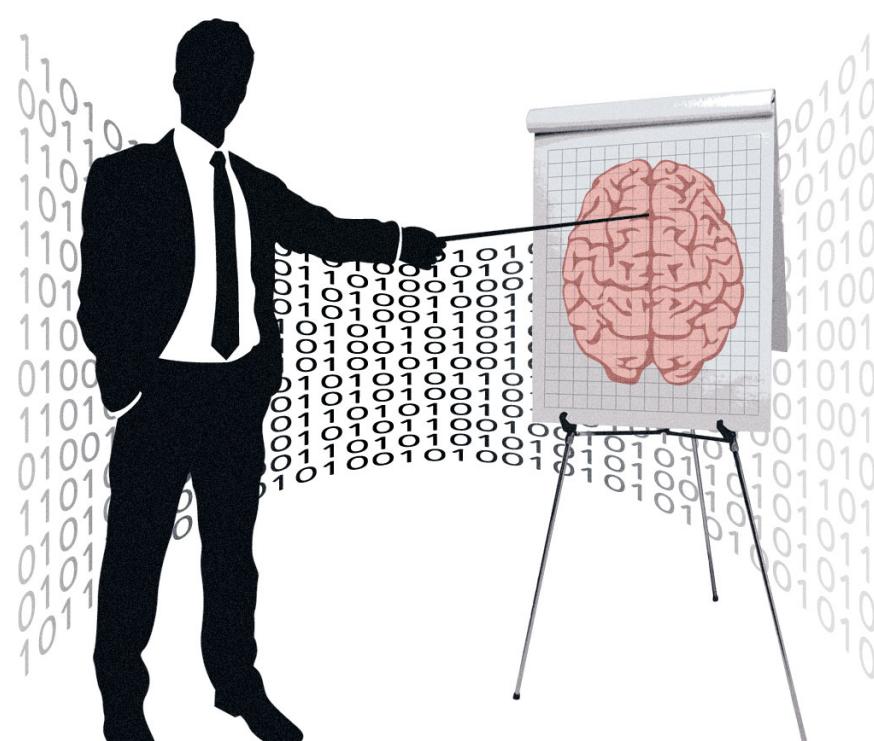
success. (For more information on IT hiring practices, see "Building The Data Center Staff" on this page.)

Mark Ford-Langstaff, Web site consultant at ORCA Websites (www.orcawebsites.com), says IT personnel live in an IT silo and have little knowledge of the direction the business is trying to go. But, IT personnel do know the systems inside out, and just by observing how other departments use systems, they can offer efficiency savings with training to make sure staff use the systems as best they can.

IT and data center managers are often overlooked as business partners because

they do not speak the language of the business leader and lack business perspective, says Kathryn Douglass, managing partner at WillowTree Advisors. Technical leaders often lack business basics, such as an understanding of

finance, a clear understanding of the vision and mission of the organization, and strong communication skills, she says. But, adds Scott Archibald, managing director of Bender Consulting, one of the areas in which IT personnel



Key Points

- Although IT personnel lack in some business areas, they also bring tremendous value to the table.
- Traditional training, such as pursuing MBAs and other advanced degrees, helps, but it is only one part of the strategy for enhancing business and management acumen.
- The value of relationships to business success cannot be overstated; building effective relationships can help overcome any deficiencies by developing allies and advocates in the business.

Building The Data Center Staff

Zero In On Candidates With Good Communication Skills & A Willingness To Learn

by Phil Britt

• • •

ONE OF THE MOST IMPORTANT jobs for a data center/IT manager is hiring and building a staff with the right mix of skills and knowledge to help the enterprise succeed.

IT and data center experts say that successfully building an IT staff is a process that takes honest, careful evaluation of the enterprise's needs, current technical capabilities, and corporate culture and then filling out the necessary skill sets, using contractors and part-timers to help with temporary needs. These experts offer the following tips in hiring the right mix of people with the right skills.

Hire For Critical Functions

Managers should first start with a macro perspective, honestly looking at the tools and architecture the enterprise has in place, and determine critical points of potential failure, recommends Greg Reitz, associate CIO for infrastructure and operations for the Rochester Institute of Technology (www.rit.edu). "Run that against a map of the skills you have in place and determine what skills you still need," Reitz says.

"You should know your core requirements," says Tom Silver, senior vice president, North America, for Dice Holdings (www.dice.com). "Someone has to know the skills that they need and then stack their

[human] resources against that. If you're not sure if it's going to be an ongoing need, you might want to start by bringing in contract help."

Look for people who actually add value to the IT/data center operation, adds John Luludis, president and co-founder of Superior Technology Solutions (www.superiortechology.com). "Focus on highly skilled, self-motivated workers who inject value into the organization," Luludis says.

Additionally, administrative functions and low-level technology skills (such as cabling and maintenance) should be outsourced. These skills, though necessary, don't add any value that differentiates an enterprise from its competitors.

"Some roles lend themselves to part-time or temporary workers," says Reitz, who has access to a number of co-op employees and part-timers through the university system. Reitz and Jeanne Casares, RIT's CIO, fill out their staff with part-time students as needs dictate, but some needs, such as legacy code, are suitable only for permanent full-time employees.

Hire Employees Willing To Learn

No matter how much certification and experience a person has, he or she doesn't know everything, and technology is ever-changing. An employee needs to be able to grow with a company, says Jorge Lopez, IT

Survey: Hard-To-Find Tech Skills

Dice.com conducted a hiring survey in May to see which tech skill sets were most in-demand in the hiring process for SMEs.

What is the most difficult skill set or position to fill today?

1. Java/J2EE
2. Security
3. Software Developer
4. SAP
5. Database Administrator
6. .NET
7. Oracle
8. Sharepoint
9. C#
10. Active Federal Government Security Clearance

That growth should include the willingness to learn integrated skills, according to Luludis. Integrating roles across IT enhances collaboration and benefits the entire enterprise. "Fragmentation occurs when facilities management and hardware management are separate," Luludis says. "Otherwise, you have separate silos of skills. That's more difficult to manage and it costs more to operate that way."

In order to find employees who can successfully accomplish new tasks, Silver recommends looking at prospects' track records for the ability to find ways to get things done. This means project management skills are important; self-motivation is another important attribute.

It's also the IT manager's responsibility to keep the staff active, Lopez adds. "If someone is bored, he will go somewhere else."

Seek Nontechnical Skills

"Soft" skills, such as communications and listening, are more important now than ever, says Patricia L. Ferdinandi, founder and president of Strategic Business Decisions.

"The technical people have to be able to communicate with the business side," Ferdinandi explains. "They have to look at [IT] as a customer-service type of organization. They have to be able to

director for The Continental Group (www.thecontinentalgroupinc.com). "If they don't want to grow, you need to make some changes," he says.

are knowledgeable in terms of business is the cost and value of particular technologies to accomplish projects, initiatives, etc.

So, even though there are areas for improvement, IT personnel also have much knowledge that adds value to the business. The key to success is shoring up those areas that are lacking while continuing to enhance those stronger areas.

Learning The Ropes

Although there is no magic bullet for rapidly building business and management acumen, there are steps IT personnel can take to methodically build success at this task.

In order to build business and management skills, IT personnel must enhance their visibility within the organization. Archibald says one way to do this and gain insight into the business is to develop relationships with business leaders. Attending meetings run by business counterparts to hear about business challenges and opportunities that could be solved by IT is one way to do this. Even the simple act of going to lunch with business folks is a useful strategy for getting face time and learning about the business.

In terms of face time, ORCA's Ford-Langstaff says IT personnel should make a point of attending other departmental monthly meetings so they can be visible, hear what the issues are, and add value by proposing solutions. Most other departments don't know what IT can do to help—in fact, they may not even know the right questions to ask—so this is an opportunity for IT personnel to be proactive and offer solutions.

Another way to build business knowledge is via practice. Curry says IT personnel should take on projects, starting with small ones, while building on successes and learning from failures. Working with senior management for mentoring and support and seeking the advice of trusted senior management can also help build business experience while developing key relationships.

It is also important to understand how a company's customers use its products. Chaitra Vedullapalli, senior director of worldwide sales and marketing communications for Microsoft Sales Force, says IT managers should "follow the money" and understand how their solutions are driving more sales for the company. They should also get engaged in the network where their customers are talking and interacting so they can connect the dots.

The Value Of Communication

A huge part of success in business is clear, effective communication. Without the ability to communicate in a clear and concise manner, IT personnel will have a difficult time gaining credibility within traditional business circles.

Douglass says IT professionals should work to improve communication skills, learn how to give great presentations, and understand how to discuss problems and solutions in business terms. It is important for IT personnel to learn how to speak to business, rather than technical, issues. IT personnel must learn to communicate in the language of the business and leave the techno-speak behind, Douglass says.

Ways to gain these business skills include joining in-house committees, volunteering for business-related projects both in and out of work, or joining industry business organizations.

Another cornerstone of success is the ability to build relationships with the business. Douglass says IT personnel must learn to socialize and relate to business peers. Many IT leaders tend to remain in their own world and socialize only with other technical people, Douglass says. Building relationships with business peers, learning to listen to their concerns, and learning how they think and work will establish rapport and make it easier to be part of the solution instead of part of the problem. □

Physical Keys To Effective Communications

Sharon Sayler, a nonverbal communications expert and author of "What Your Body Says (And How to Master the Message): Inspire, Influence, Build Trust, and Create Lasting Business Relationships," says how you speak is just as important as what you say. Sayler says IT personnel often speak using a credible voice pattern, one that maintains a calm, almost monotone cadence, with the chin dipping down a bit at the end. Listeners wish to connect with the speaker at both the emotional and intellectual levels, so IT personnel would benefit from learning to use the "connection" voice pattern when wanting to build relationships. According to Sayler, creating the connection pattern involves using a friendly tone of voice, ending each sentence with the voice going upward, and tilting the chin up just a bit, as if asking a question.

communicate with nontechnical people in order to give them what they want."

"IT is a service. We have to produce for our clients. But to do that, the IT staff has to be able to communicate with their clients," Continental Group's Lopez adds. "IT runs the business."

If one of the property managers isn't getting the reports or information he needs to operate the property, it's up to IT to solve the problem, which it can only do with effective communications with the internal customer, Lopez says.

Establish Expectations In The Interview

"Start out all of your conversations [by] letting candidates know what your

Key Points

- Carefully assess the organization's IT needs and available skills, then hire to fill any holes.
- Hire employees who are willing to learn and adapt so that they can grow with the enterprise.
- Communications and other "soft" skills are needed along with technical expertise.

priorities are and what you are looking for. It will help put you both at ease. You'll be setting expectations throughout the hiring process, start out by doing that and things will go more smoothly," says

Kenneth Gonzalez, managing partner of Engaged Consulting.

The more refined the skill, the longer the hiring process is likely to take. Although national unemployment is near double digits, unemployment in IT is running only about half of that level, with many skills in short supply, Dice's Silver says.

Along with the expectations for the skills the prospect needs to have in order to be hired, frankly discuss the organization's culture, Silver recommends. "To thine own self be true," he says. "Describe the environment during the interview. Is it collaborative?" Some workers are more comfortable in such an environment, while others are more comfortable in a different environment.

"You can hire someone for technical skills and lose," Gonzalez says. "They may be a good technician, but may not fit with the rest of the team. It's better to identify that early than to have it come back and haunt you later when it becomes a problem."

Test Prospects

Although certifications for various skills show a certain level of understanding, every company is a little different. Gonzalez recommends testing the employee's skills in the company's unique technology environment.

"Give them a problem," Gonzalez says. "Simulate what it's like in the world that you expect them to operate in or that is based loosely on your current situation. Don't give them all the info. Make them work through it and ask questions of you. The point isn't about the answer that they give, but the process that they use to get the answer. It will tell you a lot about how they think."

Luludis also says to look for employees who can "think on their feet," so they are prepared to solve most unforeseen issues. □

Business Confidence On The Rise

CompTIA's IT Industry Business Confidence Index increased by 0.2% in September as worries about where the U.S. economy is headed were balanced by greater optimism from IT firms about their own prospects. The index is an aggregation of three opinions: those about the U.S. economy, the IT industry, and of the respondents' companies. In the September survey, the U.S. economy component fell 2.3 points. IT executives' biggest concern was the fear of a stalled recovery, with the percentage of people worried about a stalled recovery up 9% since June. On the plus side, the IT industry component was up 3.2 points, indicating that IT firms have greater optimism about their own prospects this year.



Google Q3 Profits Up

Google posted some strong gains in both its core and emerging businesses during the third quarter. Total revenue reached \$7.29 billion, which was 23% higher than the same period last year. Net income was up 32% to \$2.17 billion over 2009's \$1.64 billion. Google-owned sites generated 67% of the company's total revenue, with partner sites generating 30% of revenue. Full-time staffing also made a jump from 21,805 to 23,331, which was a 7% increase. Google search had more clicks on its pay-per-click text ads in the third quarter, as well, up 16% from 2009. These ads provide most of Google's revenue.

IPv4 Addresses To Run Out Soon

The Number Resource Organization, a group that represents the world's five regional Internet registries, says that the final blocks of IPv4 numeric Internet addresses will be distributed to the regional registries early next year. The NRO says that only 5% of the IPv4 addresses remain, and it is urging network operators to switch to the newer IPv6 system, which has a much larger number of addresses available. The entire pool of about 4 billion IPv4 addresses is divided into 256 blocks, and only 12 of those blocks remain. IPv6, which was introduced in the mid-'90s, uses 128-bit addresses, compared to IPv4, which uses 32-bit. Adoption of IPv6 has been slow, however, because the two systems are incompatible.



PC Sales See 11% Growth

The PC market grew by about 11% during the third quarter, according to IDC. But that's about 3% less than what industry analysts had expected. The lower-than-expected figure is attributed to slow back-to-school sales. Apple saw a large growth of 24% in the United States and moved to No. 3 in terms of PC supplier market share inside the United States, IDC reports. HP is No. 1, with Dell at second. Global PC shipments reached 89.7 million during the quarter.



DARPA To Fight Insider Threats

The Department of Defense's research arm, DARPA (The Defense Advanced Research Projects Agency), is planning to create technology capable of examining behavioral signs that may indicate the likelihood for abnormal behaviors. The agency's ADAMS (Anomaly Detection at Multiple Scales) program is aimed at determining ahead of time when government insiders may

become a threat to themselves or others, with the goal of pre-



venting such insider threats before they occur. Clues to such threats are often present, says the agency, but they're often not noticed and analyzed until after the fact, during what is often quite literally a post mortem. DARPA will be soliciting proposals for the program on FedBizOpps.gov.

Research Group Reduces IT Forecast

In spite of recent research pointing to increased U.S. IT spending, Forrester Research is downgrading its predicted increase to 8.1%; the group had previously estimated an increase of 9.9% this year. The downgrade is the result of weaker-than-expected U.S. economic data released by the U.S. Department of Commerce, analysts say. Computer equipment and software sales remain very strong this year (jumping 19% and 9.1%, respectively), but the economy, which has not improved to the extent previously predicted by the group, has negatively impacted spending in other IT-related areas.

IBM Q3 Results Beat Expectations

Technology giant IBM has released third-quarter financial results that edged out analyst expectations, leading the company to slightly raise its financial projections for this year. IBM pulled in a net income of \$3.6 billion, up 12% from \$3.2 billion in the third quarter of last year, and revenues that climbed 3% year-over-year to reach \$24.3 billion. Diluted earnings per share were up 18%, from \$2.40 last year to \$2.82; analysts had predicted earnings per share of \$2.75. Geographically, IBM Americas experienced a 3% growth in revenue to \$10.2 billion; Asia-Pacific saw a 14% increase to \$5.9 billion; and the Europe, Middle East, Africa region saw a decline in revenues, falling 6%.



VMware Reports Impressive Increase In Revenue

Virtualization software provider VMware announced third-quarter revenue of \$714 million, representing an increase of 46% over Q3 2009's \$456 million and beating analyst predictions of \$698 million. The company's GAAP net income also showed significant growth, climbing from \$38 million last year to \$85 million this year. VMware says its revenues were divided evenly between licenses and services; licenses earned \$343 million (up 43% year over year), and services earned \$371 million (up 49% year over year). Looking ahead, the company is predicting fourth-quarter earnings of between \$790 million and \$810 million, an increase of 30 to 33% compared to last year.

Boost Your IT Skills

Whether On-The-Job Or Online, Training Is Vital To Keeping Skills Sharp

by Carmi Levy

ALTHOUGH SKILLS GROWTH has always mattered to IT professionals, it's taking on additional importance in today's economic climate. Employees with stronger, more portable skill sets stand a better chance of surviving layoffs. Even if they don't, they're more competitive in the job market compared to job seekers that aren't as well-trained.

But with so many IT training choices, it's often difficult to decide which one is best for you. Should you follow a vendor-based certification program, like Microsoft's MCSE or Cisco's CCNA? Or do you call your local college and enroll in continuing education courses? Is less formal on-the-job training still relevant? Consider the following tips as you investigate which approach makes the most sense to you.

Make Use Of A Variety Of Training Types

Because everyone has different needs, career goals, and learning styles, no one style of skills development will universally apply. Employees looking to boost their skills need to consider more than one form of training.

"Training really depends on who is going to be in the facility and what training they have had," says Mark Cousino, manager of technical training for Emerson Network Power Liebert Services (www.liebert.com). "There really isn't a single track for training that fits all needs."

On-the-job training.

Because technology implementation can take on so many diverse forms, traditional training courses can often fail to adequately prepare IT staff for the real world.

"There is no substitute for on-the-job training," says Todd Bingham, IT director for FranNet (www.frannt.com). "Certifications can look good on a wall or résumé, but working in an environment that requires 24/7 uptime administering mission-critical applications requires a whole different set of skills."

Bingham says IT staff must be able to minimize the organizational impact of any implementation—a subtle, multidisciplinary skill that is not taught in a classroom or learned in a lab.

Online training. Many experts agree that Web-based courses are effective at filling in knowledge gaps and accommodating IT professionals' notoriously challenging schedules.

"I definitely encourage online training because of the convenience of it," says Rory Case, director of engineering with Host.net. "You can do most courses in your downtime, late at night, anytime that's easiest for you."

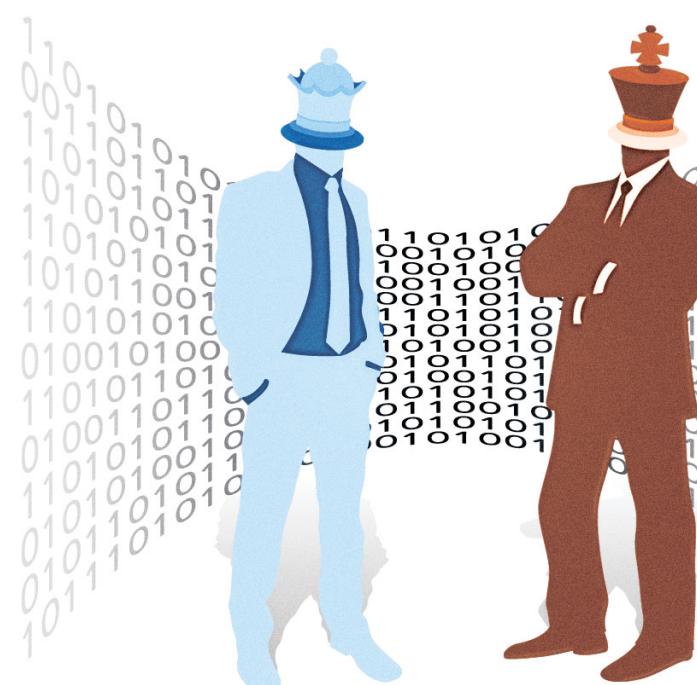
Home-based learning. Sometimes, rolling up your sleeves and getting dirty is the only way to truly learn a new technology or process. Although reading a book

can improve theoretical knowledge, only direct hands-on experience can truly internalize new or extended skills. Doing so on your own time gives the new knowledge more opportunity to sink in.

"Take a technology employed in your data center and mock it up at home," says Charles Austin, network operations center manager for Farmers Telephone Cooperative. "For instance, my old laptop serves up my Wordpress blog and a few other services that we provide in our data center. To learn more about firewall protocols and intrusion detection, I tinker with IP tables a couple of times a month."

Use Virtualization To Boost Training

A virtualized data center infrastructure doesn't just make more efficient use of hardware and related resources. It also facilitates hands-on training by allowing test



environments to be easily set up, configured, and reconfigured at will. Jeff Huckaby, CEO of rackAID (www.rackaid.com), says his firm uses virtualization to enhance its diagnostic training.

"We can break a server, create a snapshot and use the same image over and over to train our staff," Huckaby says. "If they get too bogged down, they can easily roll back to the starting point. This also aids training refinement and assures consistency between technical support staff."

Use Your Knowledge Quickly

Lack of reinforcement can result in erosion or loss of a particular skill, so you should be sure to time training close to when a particular project might require it.

"Once a course is completed, if the user does not put the new skills to use quickly, they'll often 'forget' the material," says Moira Goggin, president and CEO of Chismet Consulting. She recommends having materials such as prerecorded Webinars and written and online documentation on hand to allow trainees to refresh their knowledge after a course has been completed.

Recognize The Value Of Formal Training

Training may seem expensive up-front, but the returns—both for your career and

Key Points

- Don't choose a training approach before you study your current abilities and longer-term skill requirements.
- Avoid sticking with only one training method. Overall training goals are more easily mixed through a variety of different approaches.
- Be sure to use your newfound knowledge soon after completing a training course.

for your organization—can be significant for those looking to improve their day-to-day value. While self-taught courses and informal reading may seem like a bargain, you often get what you pay for.

"If you actually want hands-on skills, training is the way to go," says Annette Dow, CEO of Binary Research International. "It can be expensive, but the benefit of fast, actual learning how-to—if you select the right program—is immense over reading the information and then having to test/play with it on your own based on what you have read."

Whatever approach you choose, avoid limiting training to only one type, says Brian Johnston, the COO of Quality Technology Services (www.qualitytech.com). Both classes and students come in different styles, so it

pays to assess your needs and available training options before settling on a final training plan.

"Some people are more book-oriented, while some are more lab-oriented, while others are more lecture-oriented," he says. "It's the material and also the learning style and environment that influence how you learn. Nothing beats a mixture of formal and on-the-job training and interacting with your peers."

Top Tip: Assess Your Needs

It's difficult to choose a training strategy unless you understand your knowledge needs. Mark Cousino, manager of technical training for Emerson Network Power Liebert Services (www.liebert.com), says a formal knowledge assessment is critical to making the right training decisions. Key questions may include:

- What is the individual's role?
- What is the individual's current knowledge level?
- What knowledge is required for a particular role or site?

GREEN TECH & TIPS

Green Storage Options: Efficient Storage Is Eco-Friendly Storage

BY ROD SCHER

ALMOST BY DEFINITION, any technology that works efficiently can be characterized as “green,” and approaches to data storage are no exception. As Jon Hiles, senior product manager at Spectra Logic (www.spectralogic.com), notes, “Any storage technology which allows you to retain the data you need, provide it when you want, and do it with the least consumption of space, power, or management is efficient and therefore green.”

SSDs Making Inroads

Solid-state drives are fast, quiet, and cool, making them seem like ideal candidates as tools to contribute to the “greening” of IT.

However, SSDs exhibit two problems: First, they’re expensive. Given an equal amount of storage, an MLC flash-based SSD can easily cost one and a half times as much as a standard drive, and SLC-based drives are even more costly. When dealing in terabytes or petabytes of storage, you could run through much of your already limited IT budget very quickly. Second, SSDs are new enough—and finicky enough—that their endurance has been called into question. When you spend that much money on storage, you need to know that it’s going to last.

Now, though, companies are coming forward with SSD-based tools aimed at addressing those issues, and as these companies continue to develop solutions that lessen the cost and increase the longevity of

SSDs, IT stands to make huge strides in green storage.

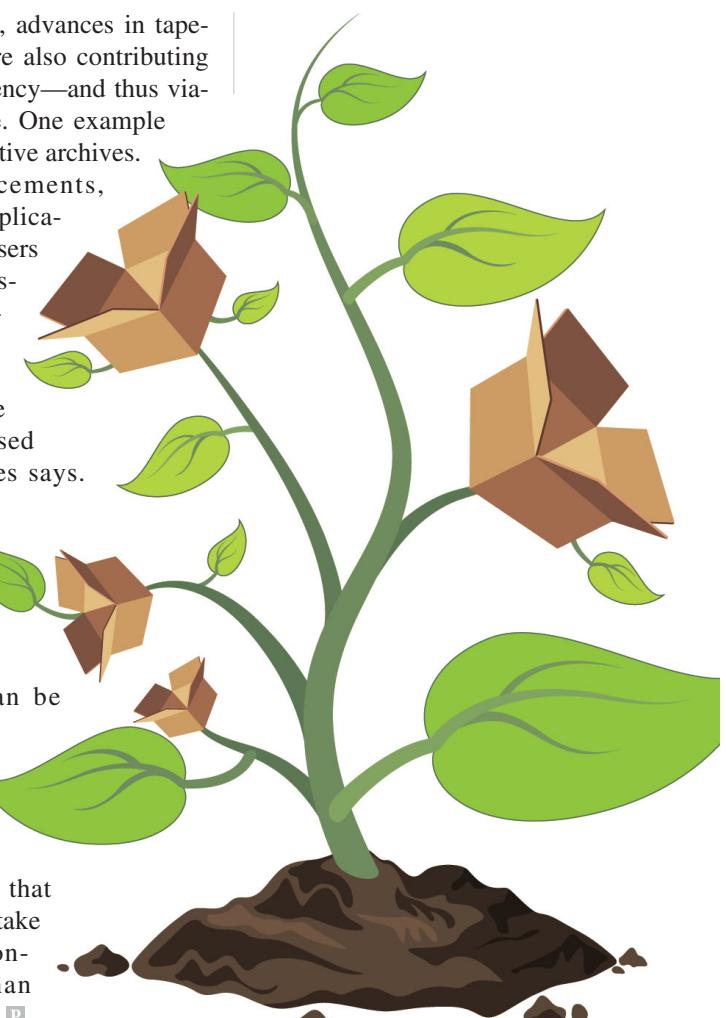
Tape Storage

Even as flashy new SSDs are making waves, another, much older technology is also making inroads into green IT: tape drives. “Data on tape can be stored for decades while consuming no power until that data is required,” Hiles says. “Using disks for long-term storage requires powering the spinning platters even when the data is not required to be accessed. Consequently, any organization required to maintain data for years for regulatory, legislative, or business purposes can significantly reduce its carbon footprint by storing infrequently needed data on tape.”

A Clipper Group report points out that, over a period of five years, a SATA disk system’s energy costs can run nearly 26 times the energy costs of a tape system; thus, the use of tape for long-term storage can greatly reduce a data center’s overall kilowatt-per-hour power consumption.

Beyond that, though, advances in tape-related technologies are also contributing to the long-term efficiency—and thus viability—of tape storage. One example is the use of tape for active archives. “Technology advancements, including software applications . . . [that] allow users to extend their file systems in a nonproprietary format across both disk and tape systems are supporting the move toward tape-based active archives,” Hiles says. “As a result, managing the movement of data from one storage tier to another is now seamless and easy, and data on tape can be managed and accessed the same way data on disk can.”

The bottom line, according to Hiles, is that modern tape libraries take up less space and consume less power than other forms of storage. □



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FEATURED SERVICE

Gone For Good

World Data Products Inc. & Shred-It Team Up To Permanently Destroy Data

by Blaine Flamig

AN UNFORTUNATE FACT about data is that, for all the plusses it can bring a company, it can just as easily devastate a business if it falls into the wrong hands. As numerous companies can attest, even data once believed to have been properly disposed of from a decommissioned hard drive can come back to haunt the company later. If your business is serious about making certain confidential data is permanently removed from drives you’re replacing, the drive-shredding destruction process that World Data Products Inc. offers via its partnership with Shred-It is the 100% secure way.

Some software use drive-wiping approaches that only remove drive directories and not actual data. World Data Products Inc.’s approach goes a step further by using Shred-It’s specially engineered, state-of-the-art shredding machines to pulverize the hard drives into tiny particles. This approach makes it impossible for others to restore the data, and shredding the drives ensures your company is safeguarded against such vulnerabilities as stolen payroll, personnel, and customer information.

World Data Products Inc. and Shred-It let companies have their hard drives, back-up magnetic tapes, floppy and Zip diskettes, and optical media destroyed right on their premises. Companies also can sched-

ule to have drives picked up and destroyed at one of Shred-It’s facilities. In either case, the drives are recycled or disposed of per EPA standards and local and state laws. Additionally, your company will receive a certificate of destruction that verifies the job has been securely completed.

Throughout the process, World Data Products Inc. and Shred-It take all precautions to maintain complete security, including providing a company with dedicated locked consoles in which it places its hard drives until it’s time to shred them. At this point, the drives are securely transferred to a truck located onsite that does the shredding. For additional peace of mind, customers are even encouraged to watch their drives being destroyed.

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Gartner Research Details IT Security Spending

Recent research from Gartner aims to offer guidance to organizations that are unsure what percentage of their IT budgets to spend on security. According to Gartner's "IT Key Metrics Data" for 2010, companies around the world spend an average of 5% of their total IT budget on security. Organizations spent 37% of their IT security budgets on personnel, 25% on software, 20% on hardware, 10% on outsourcing, and 9% on consulting. "In normal times, Gartner suggests that enterprises spend 3 to 6% of their IT budgets on security," says another recent Gartner report. "In 2010, spending will generally be within this range, as discretionary general IT spending ramps up at a faster rate than security spending. Spending outside these ranges may be perfectly reasonable but should be evaluated to understand the variances."

Gartner notes that security spending varies significantly by industry and geography and that "differences in corporate culture and security maturity levels can significantly affect security spending." The percentage of the overall IT budget spent on security will be higher for companies that are in highly regulated environments or ones that protect financial assets, intellectual property, or personally identifiable information. For example, professional services, government, and banking sectors all spend more than the average company on IT security, according to the Gartner report.

The Future Of IT Security Spending

IT security spending did not decrease even during the worst parts of the recession, Gartner reports, but many organizations put off expensive projects. Those projects are now coming back to the forefront, according to Victor Wheatman, a managing vice president at Gartner.

"The data does show that nice-to-have/want-to-have projects like identity and access management were put on the back burner, as were other 'let the good guys in' security technologies," Wheatman says. "DLP . . . does seem to be a higher priority now than it was before for compliance, protection of intellectual property, privacy considerations, and other reasons."

In the future, Wheatman says cloud computing and SaaS models will help companies reduce their overall IT security costs. "Not only that, but companies can get better security at a lower cost by outsourcing," he says.

No matter how much an organization spends on IT security, Wheatman says there are several areas every company should invest in. "The primary thing companies need to do is keep the bad guys out, which means anti-malware of various types, intrusion prevention and some common sense, [and] repetitive awareness training against social engineering," he says. "They need to monitor new threats as they emerge and anticipate what they need to do in order to protect themselves, if necessary."

by Kyle Harpster

Tips For Securely Deleting Data

Ensure Data Erasure & Compliance

by William Van Winkle

MOST IT PEOPLE UNDERSTAND the difference between data deletion and sanitizing. Deleting a file is essentially the same as erasing a table of contents entry in a book; the OS no longer knows where to find the information, but it's all still intact. Casual overwriting with new data may still not eliminate the old information because new files may be written in smaller chunks that don't overwrite the entire underlying file. Moreover, even when a file is entirely overwritten, old data may still be retrievable.

This is why sanitizing, commonly called "wiping" or "clearing," has traditionally entailed conducting multiple overwrites with patterns of 0's and 1's. Each successive writing on a groove reduces the likelihood of those stray bits surviving intact. This is why security specs from the 1990s called for three or more overwrites in order to claim true erasure. The gold standard of these specs was the Department of Defense 5220.22-M, which also called for physical destruction of drives in cases where top secret information was present.

However, in 2001, the ANSI (American National Standards Institute; www.ansi.org) added the SE (Secure Erase) command to the ATA drive interface protocols. SE is found in all drives of at least 15GB capacity made after that time. The command piggy-backs onto the traditional format command and conducts a single on-track data erasure of the entire drive. Thanks to SE, in 2006, the NIST (National Institute of Standards and Technology; www.nist.gov) finally proclaimed, "Studies have shown that most of today's media can be effectively cleared and purged by one overwrite using current available sanitization technologies." Whereas drive wiping in the '90s might take hours, today it can be done in seconds.

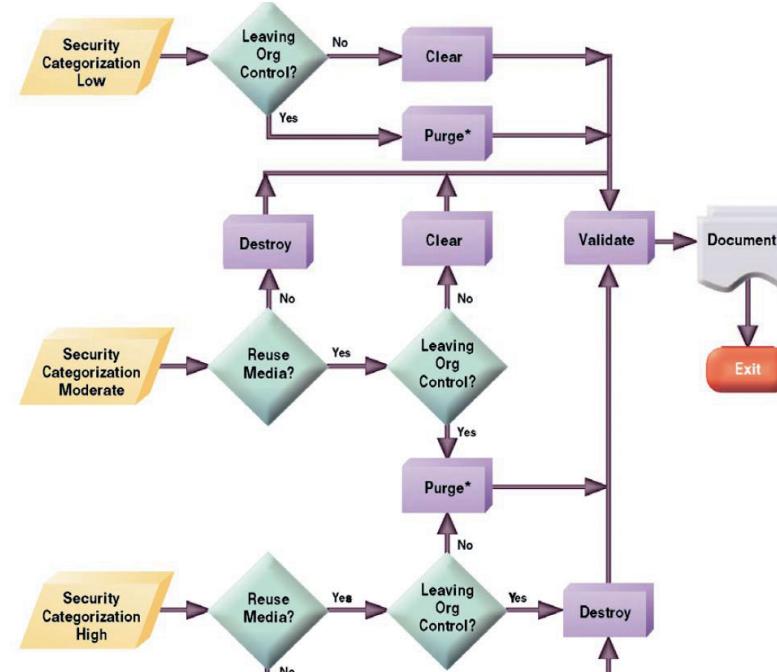
Beyond Wiping

However, the mechanics of data wiping are only the beginning of a deletion discussion. The steps taken to erase data might be commensurate with the sensitivity of that data. For instance, when wiping might not be perceived as enough, some organizations might want to simply drill a couple of holes through the drive and its platters. Only a few laboratories in the world possess the tools needed to overcome such destruction, and the time/cost involved for retrieving such data would be prohibitive save for anything shy of many millions of dollars in return value.

Another increasingly popular approach to secure data deletion involves using encryption. Quite simply, if a drive implements full disk encryption, then an admin simply needs to delete the encryption key on the drive in order to render its contents

into an undecipherable mess. Software tools allow admins to manage such deletion across an entire enterprise from a single console. Unfortunately, the strength of the encryption may not be the weak link in security here.

"Encryption is essentially a delay mechanism," says Hugh Thompson, program committee chair of the RSA Conference (www.rsaconference.com). "If I want to break into an encrypted drive, it's less a matter of how good is the encryption and more about how good is the chosen key. The problem comes down to average users. If my key is my first name or something like that, then it defeats the purpose of the



NIST offers this flowchart for helping to decide whether to securely delete certain information from an organization.

(SOURCE: NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY; "GUIDELINES FOR MEDIA SANITATION"; SEPTEMBER 2006.)

encryption. So how do you get people to choose good keys? That's why the physical disposal issue remains important."

Many enterprises recognize that "dumpster diving" in its various forms remains a security risk. Companies can't simply throw out drives. The responsible course is to recycle drives, either for materials or for sale into the second-hand market, but this requires a lot of hours in hands-on media wiping and/or drive destruction. Good tech recyclers will detail and document how they go about wiping drives that arrive for recycling. They will often charge for this service, but the total cost of disposal may well be lower than handling the disposal of drives in-house.

Create Policies

Realistically, most data breaches don't come from swiping data off of wiped (or even casually deleted) drives. According to the 2010 Verizon Data Breach Investigations Report, only 15% of all breaches involved physical attacks. Sean Regan, director of product marketing for Symantec's Information Management Group (www.symantec.com), feels that legal liability is the true root of data remanence and deletion. If a company receives notice that it is under investigation, it's obligated to

Key Points

- With modern hard drives, a single pass with the Secure Erase command is sufficient to effectively wipe all data.
- Encryption can facilitate secure deletion, but this measure is only as strong as the keyword or phrase used to unlock the encryption.
- Establish data retention and deletion policies as a means to protect the organization from legal risks.

institute "legal hold," meaning that nothing with any possible relevance to the investigation can be deleted. The prospect of legal hold arising someday has led many enterprises to simply keep everything, just in case.

"Companies just made information and kept it on backup tapes," says Symantec's Regan. "Well, backup was designed for full recovery. But companies started keeping their backup tapes longer than 30 days because they thought, 'Well, if we have an investigation, we're going to need to find and pull this stuff.' That is a huge problem,

because now you have all of the smoking guns, all of the email—good and bad—piled on these tapes with no good way to search it and very little visibility into what's even on the tapes. So companies are sitting on land mines and smoking guns with these tapes. I've talked to companies with up to 800,000 tapes, and they don't even know what's on them."

Regan advises companies to have three things in place in order to navigate the problem of accumulating data and effective deletion. First, delete by default. Companies need deletion policies, and three to five years seems to fit most SMEs. Second, have a legal hold switch. Legal hold trumps deletion policies, so there must be a way for companies to suspend dele-

tion upon receiving a legal notice. Finally, become efficient with e-discovery. If a business is sitting on terabytes of data, there must be a way to find desired information, if only to then securely delete it. Regan states that this is increasingly impossible without an archiving strategy. Data meant to be kept should pour into a centralized archive where it can be easily managed. Everything else should get quickly and securely flushed in accordance with company policies.

The trick here is realizing true centralization, especially in a time when workers' personal computing devices are increasingly creeping into business usage. The risk of having people be more productive and always accessible is that they're handling more kinds of data in ever more places.

"Hygiene practices are tricky on machines you don't control," says RSA Conference's Thompson. "If you are accessing sensitive corporate data, make sure it is on a machine that can't be easily intercepted by someone else. Even if it's a personal device, it's important to use things like full disk encryption. If you're accessing your private email from a public machine, like a kiosk, realize that remnants get left behind. So educate employees about risks so that they can make better choices in day-to-day access." P

CASE STUDY

Authentication & Access In One Combined Solution

Imprivata OneSign Boosts Employee Productivity & Data Security

by Sue Hildreth

• • •

LOGGING ON TO multiple work applications can be a headache for employees who use many different applications in the course of their day. It can also waste a lot of employee productivity and put security in jeopardy when users feel obliged to write passwords on notepads or borrow a co-worker's account.

A few years ago, this problem of multiple log-ons had become a key concern to the IT department at Southwest Washington Medical Center. SWMC has 3,000 employees, nearly 200 discrete applications, and six different security schema, and the average worker needs to access 10 applications a day to do his job. Because each application has its own account creation and log-on process, a few years ago, that meant signing in 10 times with 10 user IDs and passwords.

Even successful log-ons averaged 30 seconds, and CTO Christopher Paidhrin estimates that logging on ate up 150 hours of employee time per week, not including password-related delays. That came to a conservative estimate of \$130,000 each year. But what triggered real concern was the addition of remote access and VPNs to link SWMC with its external clinics and other partners. That involved the care and maintenance of more than 150 VPNs and their users, with the help desk tasks that come with it such as issuing and changing passwords, adding users, and deactivating accounts.

"We realized at that point that it just was not going to be sustainable over the years," Paidhrin says.

In Search Of Single Sign-On

The hospital IT staff began looking at its options in identity and access management applications. It needed a product that could support McKesson healthcare applications and had an easy-to-use single sign-on capability that could support integration with multiple identity authorization schemes, such as Novell NDS, RADIUS, and Active Directory.

"We took six months to evaluate the solutions that were out there," Paidhrin says. The selection process included a Q&A of 100 questions the software maker had to answer, and later an in-house trial of the unit with some of the hospital's applications. The IT department invited end users from different parts of the hospital and from affiliated clinics that use the software to come in, try out the products, and provide feedback. "We looked at how sign-on worked in their old environment and how it worked in the new SSO environment, and we used a stopwatch to compare how long things took," Paidhrin says.

Imprivata OneSign Single Sign-On (www.imprivata.com) was chosen based on that feedback, in addition to other factors relating to cost and manageability. For example, the IT staff liked the product's administrative interface and its support for multiple types of authentication.

"Imprivata has the most seamless interfaces of any of the SSO solutions," Paidhrin says. In addition, it supports multiple types of

authentication at no extra charge, which was not true of the other products SWMC evaluated. That made Imprivata one of the lowest-cost options. "The free features were important. Since we have several modalities of authentication here—Active Directory,

information exchange's authentication engine. "Imprivata was the most integrated, and the easiest for us to implement ourselves," Paidhrin says.

The security that OneSign provides was also an important consideration for SWMC because the hospital is regulated by HIPAA, which requires health-care providers to protect patient information and strictly control access to patient records. The system supports various

security options, such as the finger biometrics reader that SWMC uses, as well as smart cards, proximity cards, and building access cards. To prevent employees from leaving their laptop or terminal without logging out, OneSign has policies for locking or logging off of a computer automatically if it's not used for a specific period of time, or it can log off the network when a user with a proximity card walks away from the terminal.

OneSign's reporting feature allows Paidhrin to see who is accessing the



RADIUS, Novell—that made it perfect for our environment," Paidhrin says.

Putting SSO To The Test

Imprivata was implemented in two stages, the first one focusing on the medical center's 98 most important applications. When that was completed, the rest of the applications were added. The entire implementation took three months, and SWMC now has three Imprivata units: one used in production, a second for failover, and a third for testing purposes in the IT department.

Employees now see one interface and use just one password to sign on to all of their work applications quickly and without searching their desk for passwords. For clinical workers in particularly fast-paced environments such as the emergency room, a biometric fingerprint scanner further speeds the authentication process.

The feedback from end users has been excellent, Paidhrin says, and there's been a noticeable drop in the number of calls to the help desk with log-on problems. The move to single sign-on has also made it easier for employees to share workstations and use any device on the network, as it takes only 15 seconds for one person to log off and the next person to begin logging on. Users have access to the network based on their role or job category through Microsoft Active Directory. Access to individual applications is then handled by Imprivata.

Paidhrin estimates that moving to SSO has shaved several minutes per day off the average employee log-on process, not counting the time spent searching for passwords, calling the help desk, or trying to refocus on work that was interrupted by log-on problems. Imprivata has also helped SWMC reduce the IT manpower spent troubleshooting account issues and resetting passwords. "We've reduced log-on times and reduced the number of total log-ons, and we've seen a 20% reduction in the number of calls at the help desk," Paidhrin says.

Integration & Security Are Key Concerns

Because of Imprivata's ability to integrate with multiple authentication schemes, the Southwest Washington Medical Center staff was able to implement one sign-on process for all of its applications. The support for different authentication technologies will also enable the hospital to link with a regional health information exchange that is under development. Employees will be able to use their regular usernames and passwords, with OneSign passing the credentials to the health

Imprivata OneSign Single Sign-On

An appliance-based password management, authentication, and access management product that supports a range of security access technologies such as finger biometrics, USB readers, smart cards, and user directories.

"The free features were important. Since we have several modalities of authentication here—Active Directory, RADIUS, Novell—that made it perfect for our environment," says Christopher Paidhrin, CTO of Southwest Washington Medical Center.

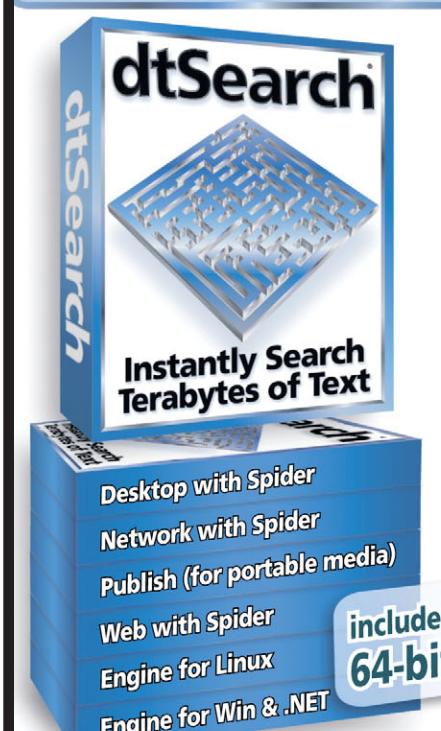
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network, when, and through what method, and it can also provide information on who accessed specific applications. The reporting capabilities also make it easier to catch potential data breaches and to prove compliance with HIPAA to auditors, he says.

All in all, it's a much more secure environment than the prior system of multiple accounts, multiple security systems, and multiple sticky notes with passwords taped to employee workstations—a violation of hospital security policies, but a frequent practice among users burdened with several passwords.

"The value of any investment is based on the business case that justifies it," Paidhrin says, "and for us, that's security and compliance." □

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SECURITY

TECH IN-DEPTH

The Rising Threat Of Cyberterrorism

Between Data Loss & Downtime, Cyberterrorism Can Be Devastating

BY CARMI LEVY

If conventional terrorism is meant to cause panic, fear, or damage on a large enough scale to attract widespread attention, then cyberterrorism's goals are similar. The only difference is that cyberterrorists focus on technological rather than physical infrastructure.

"Frankly, any semi-financed terrorism group could cause far worse damage by hiring out a Russian DoS/attack crew than they can for the same cash putting a car bomb in Times Square," says Matt Jonkman, founder of Emerging Threats Pro (www.emerginngthreats.net). "Also, far more individuals are affected in a cyber attack, if it is successful."

■ CYBERTERRORISM DEFINED

In a corporate context, cyberterrorism includes attacks on network or data center infrastructure that could either be



designed to steal data or interrupt the organization's ability to function. Although the definition is relatively new, it's not far removed from traditional threats to organizational security.

"Most companies frankly struggle to define with great clarity what their information security goals are," says Craig Robinson, COO of GlobalSCAPE (www.globalscape.com). "I always come back to thinking of this as a risk management issue," he continues. "Ask yourself: What are my critical assets, where might they be vulnerable, and what types of threats might be able to exploit those vulnerabilities? Look at them to define your areas of security focus."

Phil Lieberman, advisor to the Senate's Homeland Security and Government Affairs Committee and president and CEO of Lieberman Software (www.liebsoft.com), says the threat of cyberterrorism has grown as high-speed network access has become ubiquitous and affordable. In an earlier dial-up world, attacks originated almost exclusively from within universities and research labs because they were the only ones that had high-speed

Key Points

- Cyberterrorism is similar to conventional terrorism, only it's directly focused on destroying technology infrastructure and/or disrupting its routine use.
- Existing security processes and strategies are effective in boosting organizational protection.
- Large-scale attacks are more widespread and difficult to stop with the consumer transition from dial-up to broadband.

connections. This also simplified identification and resolution.

Now that consumer access has transitioned from dial-up to broadband, the potential points of origin of large-scale attacks are infinitely more widespread and more difficult to track and stop, and botnets make a bad situation worse.

Whatever form it takes, Robinson cautions against hastily concluding that a particular act is cyberterrorism. "If somebody came and spray-painted the wall of your house, for example, I don't think you'd say that's an act of terrorism," he says. "We'll need to be careful to draw a pretty clear line between the types of things that are merely nuisances or cybervandalism and those that truly qualify as cyberterrorism."

■ NO EASY FIX

Lieberman says cyberterrorism continues to bubble below the surface, with no large-scale effort to quash it, because there hasn't yet been a major, defining attack. "Everyone is waiting for the cyber equivalent of Pearl Harbor," says Lieberman. "Until Pearl Harbor happens, it's [difficult] to move forward with any form of legislation that might deal with it."

Lieberman says the federal government is challenged to implement legislative guidelines without running afoul of e-privacy and civil liberties lobbyists. "Doing the right thing may not be practical because of the potential blowback," he says.

But smart IT shops aren't waiting for the government to act. They're looking inward. "Our biggest enemy may not be terrorism," Lieberman says. "It may be our own stupidity, from employees downloading viruses or losing unencrypted flash drives. Good organizations expect the worst, and they assume they're under attack, every day." □

Keeping Cyberterrorists At Bay

According to Matt Jonkman, founder of Emerging Threats Pro (www.emerginngthreats.net), existing security strategies are effective against cyberterrorism. These include:

- | | |
|-------|--|
| • IDS | • Antivirus, anti-malware, and anti-spionage software and hardware |
| • IPS | • Regular third-party testing |

Banish Weak Passwords

Policies To Ensure Passwords Are Safe

by Jean Thilmany

ENTERPRISE SECURITY can only be as strong as its weakest link, and more often than not, that weakest link is a password. That's why, for IT managers, finding and fixing weak passwords is of utmost concern. With that in mind, we've compiled some tips from IT experts about what data center and IT managers can do to make sure passwords are as secure as possible.

Establish Password Policies

Password policies need to be set and enforced by IT managers, and all users need to be made aware of best password

and make them aware of the ramifications of security breaches, including identity theft."

Remind users that their passwords need to be at least eight characters long, including upper and lowercase letters, and should include at least one special character and one number, Lippie says.

At the enterprise level, IT managers should also set a password expiration date, he adds. And they need to remember to reset passwords when employees leave. A recent Staples Advantage survey of IT practices at small to medium-sized enterprises found that 40% of respondents don't always change network passwords associated with departing employees, he says.

"Some types of attacks basically try all the words in the dictionary to crack your password."

- Best Buy's Christopher Plath

practices, says Jim Lippie, president of Staples Network Services by Thrive (www.thrivenetworks.com), the IT network services business of Staples Advantage.

If users don't set ideal passwords, some applications can automatically deny them access until the password is sound, he says. He expects these types of applications to increase as more enterprises move to discourage weak passwords and the security risks that come with them. "But it's still good practice to educate employees," Lippie says. "Encourage them to use strong passwords

When At Home

IT managers should also offer password information for users who work from home or use their home computers or laptops for office work in the evening or while on the road, says Chris Stoneff, senior product manager at Lieberman Software (www.liebsoft.com).

If they also use their computers for online banking, home users should be sure to click the Log Off or Sign Out or similar button when finished. This invalidates the logon session stored on the system. Then, close the entire browser. "If you're using a tabbed browser, simply closing the single tab is not the same as closing the entire browser, which typically clears that information from further use," he says.

Also, remind all users not to let their browsers store their passwords for them, he adds. Browsers typically don't store passwords securely. And, again for all users: Don't let your system auto-logon, Stoneff says. "If your system is configured for auto-logon, Windows will actually store your password in clear text in the Registry of the system in a well-known location," he says.

all the words in the dictionary to crack your password," Plath says. "For example, using *purpledog* as a password isn't a good idea. Also stay away from easy patterns on the keyboard such as *qwerty* or *asdfghjk*."

Passwords should be at least eight characters long and contain both numbers and letters. A capital letter or two should be used if the password is case-sensitive. You can substitute numbers for letters: typically 4 for *A*, 3 for *E*, 0 for *O*, and 1 for *L*.

If the application allows you to use special characters such as punctuation marks, use those along with letters and numbers. For instance *!t5As3cr3t* would be acceptable. This actually spells out "it's a secret," Plath says.

Key Points

- Some applications automatically deny users access if their passwords are weak. Check them out.
- Strong passwords start at the IT level. Managers need to set standard password policies, and it can't be overstated: Change passwords frequently.
- No two administrator accounts should ever have the same password.

"Some people take a sentence or phrase that means something to them and use the first letters of each word of the sentence for their password. So, "I picked a really good password" could translate to *1pArG00dP*, he adds. And he reiterates the advice that can't be given too often: Change passwords frequently. □

FEATURED PRODUCT



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HARDCORE COMPUTER® HAS SELECTED SC10 to announce general availability of the world's first Liquid Blade™ server. Liquid Blade solves many of the most complex and costly challenges plaguing data centers today: escalating utility costs, the high cost of operating and maintaining sophisticated cooling and environmental control systems, and the ever-increasing demand for floor space.

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Security Expert Suggests Health Model For Cybersecurity

According to a paper from Scott Charney, corporate vice president of Microsoft's Trustworthy Computing initiative, computers plagued with malware such as bots are not only harmful to the user, but to everyone else on the network. As such, the responsibility for mitigating the risk has spread from the user to the Web community at large.

In his paper, titled "Collective Defense: Applying Public Health Models to the Internet," Charney asserts that an "Internet health model" similar to those in place for dealing with infectious disease outbreaks—including the practice of quarantining those infected—could be implemented to address the issue without compromising privacy. Specifically, Charney says the health model could include automated means of quarantining dangerously compromised systems, notifying the user, and providing the user with disinfection resources to help clean the system for repatriation to the Internet.



A Global Battle

Though Charney's assertions have been met with some skepticism and concern for privacy, there are already several efforts in other countries that have had positive results in stemming the malware tide in various ways. For example, France's Signal Spam is a public and private initiative that publishes a user-populated database of junk email to ISPs, agencies, and businesses. Finland's Computer Emergency Response Team, dubbed CERT-FI, combines public awareness, monitoring, and regulatory efforts to stamp out malware. And Japan's Cyber Clean Center uses honeypots to attract bot-infected PCs, says Paul Kurtz, managing partner at security consulting firm Good Harbor. Once it identifies zombie systems, the CCC notifies users and supplies anti-malware assistance.

"Currently, many organizations are actively engaged in identifying and preventing malware, but often such solutions are developed in isolation," Kurtz says. "Information sharing is not occurring across all levels and platforms from the provider to the user. Thus, users may be protected from one form of malware but may also be vulnerable to many more, [or] worse yet, a victim."

"A common theme across CCC, Signal Spam, and CERT-FI is a collaboration with federal, public, and private organizations in developing a holistic approach to protecting the public from malware," Kurtz continues. "Synchronizing the efforts of federal regulation and education with federal agencies, ISPs, security vendors, IT manufacturers, private and public sectors, and users will greatly strengthen the capabilities of identifying, preventing, and isolating malware and spam."

"Although malware and spam will, perhaps, never be eliminated, a global computer health program will enhance the ability to holistically secure the network and prevent malware from affecting users," Kurtz concludes.

by Marty Sems

The Potential For Cell Phone Interception

Countermeasures To Combat The Threat Of Snooping

by Kurt Marko

• • •

THE IDEA OF TAPPING phones is almost as old as the phone itself. Since the transition to digital networks, with their sophisticated modulation schemes, frequency hopping, and encryption protocols, most people assume that cell phone interception is the exclusive purview of government agencies, not rogue hackers or criminals. No longer.

Security researcher Chris Paget destroyed that assumption during a groundbreaking demonstration at this year's Defcon hackfest. Paget pieced together a kit of open-source software and cheap hardware that effectively spoofs a cellular tower and allows complete network control over all GSM phones within range. Here's a look at how interception works and some steps you can take to counter the threat.

Interception Overview

Like most message surveillance schemes, cell phone snooping uses an MITM (man-in-the-middle) attack. This involves terminating wireless phone connections on a private base station, routing calls through a local IP PBX, and recording all call "data" to a WAV file as it's passed to a VoIP SIP network. It's conceptually identical to setting up a rogue Wi-Fi access point, spoofing

Key Points

- The nexus of open-source software, cheap and available hardware, and a weak wireless telephony protocol enabled the construction and successful demonstration of a rogue cell phone base station suitable for call interception using a standard man-in-the-middle attack.
- The exploit only works on 2G GSM networks; however it is possible to jam 3G signals and force virtually any GSM phone to negotiate a 2G connection.
- Phone users can protect themselves by either using a CDMA network or end-to-end encryption software on GSM phones and by regularly monitoring their network status looking for suspicious switches to 2G connections in known 3G locations.

no control over which base station they associate with. Because phones are designed to optimize reception, they automatically associate with the strongest BTS signal. During the association process, phone and base stations exchange identifiers (the phone's unique subscriber identity called an IMSI) and negotiate other parameters including the encryption protocol. Even though the 2G encryption algorithm (known

Despite the illegality of intercepting calls on licensed radio spectrum, there's no technical impediment to eavesdropping on 2G GSM calls. "GSM is broken, it is the telnet of cellular systems."

- Security researcher Chris Paget

a legitimate hotspot, and capturing traffic before routing it to the Internet.

As with any effective MITM attack, neither side of the transaction is aware of an eavesdropper in the middle. Phone users have no indication they're connecting to a private network because outgoing calls are completed as normal by the attacker's VoIP connection. If the attacker is judicious in choice of operating frequencies, the cell operator also has no idea there's an unauthorized base station operating on their bands, nor that subscribers are connecting to a rogue tower. To the operator, the phones look like they're just turned off, thus inbound calls get automatically routed to voicemail.

The key to the attack is getting unsuspecting phone users to attach to the rogue BTS instead of a valid cellular tower. This is actually easier on GSM networks than Wi-Fi because unlike Wi-Fi, phone users have

as A5/1) has been cracked, during association setup, the attacker can force phones to use no encryption.

Having bound the handset to his private base station and ensured that signals aren't encrypted, the attacker has full access to any outbound calls. These are routed through an IP PBX to a VoIP provider. The only way phone users might suspect they are being spied on is if they get a new voicemail message without ever hearing the phone ring. Although Paget's setup lacked the ability to tap inbound calls, he outlined a technique for spoofing a connection between the rogue BTS and carrier network, so it's only a matter of time before someone executes the strategy and has bidirectional call interception.

Limitations

Despite its surreptitious effectiveness, this attack has some limitations. First, it

only works on 2G GSM networks (AT&T and T-Mobile). Despite the virtual ubiquity of 3G networks these days, this is small comfort because Paget outlined (although, for obvious reasons, didn't demonstrate) a simple approach for jamming 3G signals and forcing handsets to drop back to 2G mode. There have been no published attacks on CDMA networks (Verizon and Sprint in the United States), so users on these carriers are safe from hackers, although not from government agencies using commercial equipment. Furthermore, the GSM attack only intercepts voice traffic, not SMS text messages.

Protection Measures & Recommendations

Despite the clear illegality of intercepting calls on licensed radio spectrum, there's clearly no technical impediment to eavesdropping on 2G GSM calls. "The reality of it is, there is no good solution; GSM is broken, it is the telnet of cellular systems," Paget says in his Defcon presentation, referencing the unencrypted network terminal protocol telnet. He adds, "The solution is 3G and later protocols," meaning 2G networks must be turned off and the protocol disabled in the handset. In the meantime, users should pay attention to their connection status. "Look for that icon on your screen that says 3G," he says. "Alternatively, treat it like a data network and put another layer of crypto on top of it and treat it like voice over IP."

Paget's demonstration is admittedly alarming, but as Rich Mogull, CEO of Securisys (securisys.com), points out, the risk is still low for average users, adding that such attacks are primarily a threat to employees, such as executives or those in the defense industry, who deal with sensitive information. Given the banal content of most cell phone calls, illicit snooping is unlikely to cause most of us anything more than embarrassment.

Tips To Stop Mobile Phone Tapping

According to Cellcrypt, there are ways to stop mobile phone tapping, such as those listed below.

- Do not assume your calls are confidential.
- Make sure you are using 3G when it's available, rather than 2G.
- Keep your phone and voicemail PINs secure.
- Try to protect your phone from malicious software downloads, such as by text or system message or Bluetooth.
- If necessary, use voice call encryption software to secure sensitive calls.

NEC Fault Tolerant Servers

Taking Fault Tolerant Virtualization to the Next Level

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Rackmount Servers

Product

Aberdeen Stirling 163G



Description

The 1U Stirling 163G from Aberdeen uses a GPU in addition to a CPU to perform general-purpose scientific and engineering computing tasks. Stirling 163G servers are designed to boost performance at 1/10th the cost and 1/20th the power consumption of the latest quad-core CPUs.

- 1U form factor with support for two double-width GPU cards
- Configurable with Nvidia Tesla or Fermi GPUs
- Up to 12 CPU cores (dual six-core Intel Xeon 5600 processors)
- Up to 192GB DDR3 memory capacity
- Three 3.5-inch SATA drives with RAID 0, 1, 5, and 10 support
- Optimized for HPC and GPU supercomputing
- Five-year warranty

Best For: High-end, high-density GPU applications requiring high arithmetic intensity.

Price: Starts at \$2,795

Aberdeen Stirling 266G



The 2U dual-node Stirling 266G GPU server from Aberdeen provides endless computational scalability for high-bandwidth problems such as sequencing (virus scanning, genomics), visual computing problems such as graphics, and image processing. GPU computing uses a CPU and GPU together in a heterogeneous computing model, wherein the sequential part of the application runs on the CPU and the computationally intensive part runs on the GPU.

- 2U form factor with support for two double-width GPU cards
- Configurable with Nvidia Tesla or Fermi GPU cards
- Up to 12 CPU cores (dual six-core Intel Xeon 5600 processors)
- Up to 192GB DDR3 memory per node
- Six 3.5-inch SATA drives per node
- Optimized for HPC and GPU supercomputing
- Five-year warranty

Best For: A range of graphical and computationally intensive applications, such as medical, energy, telecommunications, finance, science, and engineering.

Price: Starts at \$3,795

Dell PowerEdge R910
4U Rack Server

The high-performance, 4-socket 4U PowerEdge R910 rackmount server from Dell boasts built-in reliability for CPU, memory, hardware, and hypervisor specifications. The Lifecycle Controller and embedded diagnostics enable advanced reliability, availability, and service capabilities. The PowerEdge R910 is designed as a building block to create a more efficient data center by way of simplifying standard operations and implementing processor security configuration.

- Hypervisor redundancy available via internal dual SD module
- Supports eight-core Intel Xeon 7500 series processors
- Hard drive options include 50GB 2.5-inch SATA SSDs or 146GB/300GB 2.5-inch SAS drives
- Rack optimization includes sliding Ready Rails for 4-post tracks, static Ready Rails for 2- and 4-post racks, and optional cable management arm support
- Management through Dell OpenManage and Unified Server Configurator
- Lifecycle Controller options are IDRAC6 Express, iDRAC6 Enterprise, and vFlash

Best For: Establishing an efficient infrastructure to ensure reliability, security, and data center cost reduction.

Price: Starts at \$7,368

Product

IBM Power 730 Express



Description

Able to consolidate Unix and x86 Linux workloads, the IBM Power 730 Express server optimizes server workloads and manages energy efficiently in order to help reduce data center costs. The server features IBM POWER7 processors, PowerVM technology, Intelligent Threads technology, and Active Memory Expansion. The intelligent energy management features ensure increased performance per watt and reduced operation frequency if required.

- EnergyScale Technology promotes operational growth even when energy is limited
- Light Path Diagnostics rapidly detect hardware problems
- POWER7 processor modules (two per system) include eight-core 3.37GHz, 12-core 3.7GHz, or 16-core 3.55GHz
- Supports AIX, IBM i, and Linux for power operating systems
- PowerVM virtualization balances workloads by sharing multiple resources

Best For: Data centers running on multiple application and infrastructure workloads inside a virtual environment.

Price: Starts at \$15,230

Silicon Mechanics
Storform iServ R518

The Storform iServ R518 from Silicon Mechanics is a 4U bare-metal storage server, meaning admins are free to install the storage management software of their choice. The R518 has front and rear drive deployment for high-density, high-capacity storage and is readily expandable using Silicon Mechanics Storform JBOD products. The R518 is powered by six-core Intel Xeon 5600 series CPUs and features Intel Turbo Boost and Hyper-Threading technologies, DDR3 memory, and up to 12MB cache.

- 4U storage server with front and rear drive deployment
- Two Intel Xeon 5600 series CPUs
- 12 DDR3 DIMM sockets
- Five PCI-E expansion slots
- 36 hot-swap SAS/SATA drive bays: 24 front, 12 rear
- Redundant 80 PLUS Gold certified power supply

Best For: Affordable high-density, high-capacity storage.

Price: Starts at \$5,300

Silicon Mechanics
Rackform iServ R422

The Rackform iServ R422 from Silicon Mechanics is an enterprise-level 2U rackmount server. The R422 is a powerhouse, with capacity for eight-core Intel Xeon 7500 series CPUs and 32 DDR3 DIMMs. In addition to Intel Turbo Boost and Hyper-Threading technologies, the R422 includes such high-end features as recoverable machine check architecture and integrated Intel Scalable Memory Interconnect and Scalable Memory Buffers for high-speed links and high-capacity bandwidth.

- 2U 4-socket rackmount server
- Four Intel Xeon 7500 series CPUs
- 32 DDR3 DIMM sockets
- Up to 24MB cache
- Four PCI-E expansion slots
- Six hot-swap SAS/SATA drive bays

Best For: Virtualization and deployments requiring multi-processor power and high memory counts.

Price: Starts at \$9,750

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Joanna Clay

HP ProLiant DL580 G7



The HP ProLiant DL580 G7 is a scale-up server designed with reliability to support the most demanding, data-intensive x86 workloads. Based on the latest Intel Xeon 7500 Series processors, the new systems architecture accelerates virtualization and eliminates performance bottlenecks. HP ProLiant servers are the building blocks of an HP Converged Infrastructure—a blueprint for the data center of the future.

- Increases administrator productivity with iLO 3 (Integrated Lights-Out) Advanced remote console management
- Improves data center utilization, reclaims over-provisioned energy, and triples data center capacity with HP Insight Control with Dynamic Power Capping technology
- Eliminates overprovisioning of power capacity with HP Intelligent Power Discovery

Best For: Business-critical data center deployments and virtualization environments.

Price: Starts at \$9,249

HP ProLiant DL585 G7



The HP ProLiant DL585 G7 server delivers industry-leading efficiencies to reduce costs in both capital and operating budgets. Based on the latest AMD Opteron 6100 Series processors, this server supports up to 512GB of memory to maximize performance. HP ProLiant servers are the building blocks of an HP Converged Infrastructure—a blueprint for the data center of the future.

- Increases administrator productivity with iLO 3 (Integrated Lights-Out) Advanced remote console management
- Improves data center utilization, reclaims over-provisioned energy, and triples data center capacity with HP Insight Control with Dynamic Power Capping technology
- Eliminates overprovisioning of power capacity with HP Intelligent Power Discovery

Best For: Server virtualization, server consolidation, multilayer enterprise applications, and corporate infrastructure applications.

Price: Starts at \$8,579

IBM Power 710 Express



The IBM Power 710 Express is a high-performance application server that offers support for up to eight POWER7 cores within a dense infrastructure. This model features the POWER7 Intelligent Threads technology and is able to switch between one and four execution threads. Additionally, IBM's Active Memory Expansion makes more usable memory available. PowerVM technology is available in four configurations, including POWER Hypervisor, PowerVM Express Edition, PowerVM Standard Edition, and PowerVM Enterprise Edition.

- Intelligent energy management features can conserve power and promote efficiency
- RAS features maintain business operations to sustain a growing work environment
- Includes up to six SSDs or SAS drives, up to 1.8TB disk capacity, and four low-profile PCI adapter slots
- EnergyScale technology includes power trending, power saving, power capping, and thermal measurement

Best For: Data centers that need the support for fast transactions as well as Unix/AIX, IBM i, and Linux deployments.

Price: Starts at \$6,385

Silicon Mechanics Rackform nServ A109



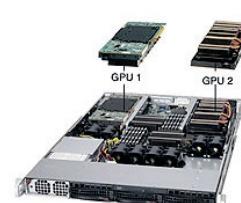
The just-released Rackform nServ A109 from Silicon Mechanics brings greater power and efficiency to the affordable entry-level server. With a four- or six-core AMD Opteron 4100 series processor, admins have access to HyperTransport technology, two channels of DDR3 memory operating at up to 1,333MHz, 6MB of L3 cache, and advanced power management features such as Cool Speed and Enhanced APML (Advanced Platform Management Link) with Precision Thermal Monitor.

- 1U single-socket rackmount server
- One AMD Opteron 4100 series processor
- Four DDR3 DIMM Sockets
- 6MB L3 cache
- One PCI-E 2.0 expansion slot
- Two fixed SAS/SATA drive bays

Best For: Entry-level workloads relying on efficient power and the Intelligent Platform Management Interface with KVM over LAN integration.

Price: Starts at \$1,045

Supermicro SuperServer 6016GT-TF-FM205



The 1U SuperServer 6016GT-TF-FM205 rackmount server from Supermicro features an Intel Xeon 5600/5500 processor and 192GB of DDR3 1333/1066/800MHz ECC Registered DIMM. The SuperServer 6016GT-TF-FM205 also features the Super X8DTG-DF motherboard (with dual 1,366-pin LGA sockets).

- Supports RAID 0, 1, 5, and 10
- Comes integrated with two Nvidia Fermi M2050 GPU cards
- Intelligent Platform Management Interface version 2.0 with support for virtual media over LAN and KVM over LAN
- Intel 82576 dual-port Gigabit Ethernet controller with support for 10BASE-T, 100BASE-TX, 1000BASE-T, and RJ-45 output
- 80 PLUS Gold Certified power supply

Best For: Environments that would benefit from high compute density and uniform large-scale deployment-based rackmount solutions.

Contact: (408) 503-8000 | www.supermicro.com

Supermicro SuperServer 6026TT-GIBQRF



The SuperServer 6026TT-GIBQRF from Supermicro has a 2U rackmount configuration that features integrated IPMI 2.0 with KVM and dedicated LAN. This model includes computing nodes with onboard QDR InfiniBand for 40Gbps high-bandwidth connectivity. It features additional support for up to 12 hot-swap 3.5-inch SAS/SATA drives for increased I/O provision.

- 1,400W high-efficiency power supply with 80 PLUS Gold Certification
- Dual 1,366-pin LGA sockets with support for up to two Intel 64-bit Xeon processors
- Supports memory mirroring plus single- and double-bit error detection and correction
- Supports up to two double-width GPU cards via native PCI-E 2.0 x16 slots
- Dual Intel 82574L Gigabit Ethernet controllers with 10BASE-T, 100BASE-TX, and 1000BASE-T output

Best For: Environments requiring hot-swap server capabilities for power savings and space sharing.

Contact: (408) 503-8000 | www.supermicro.com

Database Admins: Security Is Lax

As a whole, database security is lax, according to 430 Oracle database administrators surveyed by the Independent Oracle Users Group. Less than 30% of admins encrypt personally identifiable information, and 75% say that there's no security in place to prevent users with privileged access from reading HR, financial, and other business data. Furthermore, 64% of respondents say they don't monitor database activity, and less than 30% that do monitor are looking for sensitive reads and writes. About 6% report that they were aware of a company data breach or tampering in the past year.

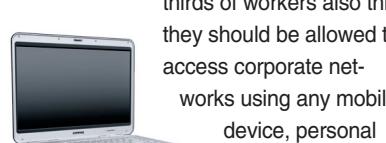
Electronic Theft Outpaces Physical Theft

Risk consultancy firm Kroll Consulting has discovered some unsettling data in its recently released annual Global Fraud Report. According to Kroll's worldwide survey of 801 senior corporate executives, conducted with the help of the Economist Intelligence Unit, electronic theft has surpassed physical theft for the first time since Kroll has been tracking fraud. Last year, 28% of companies said they had been victims of theft of physical assets

and just 18% said they had suffered a data theft. This year, however, 27.2% say they have been victims of physical theft and 27.3% say they have experienced data theft. Overall, fraud seems to be on the rise, with lost assets due to fraud totaling \$1.7 million per billion dollars of sales. Last year, fraud accounted for \$1.4 million in losses for every billion in sales. The industries with the highest number of data theft reports are, unsurprisingly, those that are largely information-based: 42% of financial service firms; 40% of professional service firms; and 37% of technology, media, and telecommunications firms reported data theft this year. In 2009, 24%, 27%, and 29% of those industries, respectively, reported data theft.

Survey: Workers Prefer Mobility Over Higher Pay

About two-thirds of workers and IT professionals would prefer a job that offered telecommuting and the ability to use a personal wireless gadget over one that pays 10% more and doesn't allow the same wireless freedom. The finding came from a recent Cisco-commissioned survey of users from 13 countries. The survey, conducted by InsightExpress, also showed that U.S.-based respondents were slightly less smitten by mobility options: 52% would take less pay and more mobility, while 48% prefer the higher-paying job. Of the worldwide respondents, 60% disagree that one needs to be in the office to be productive. Two-thirds of workers also think they should be allowed to access corporate networks using any mobile device, personal or otherwise.



Choose An Enterprise Phone System

Sift Through The Options

by Chris A. MacKinnon

• • •

HOW WOULD BUSINESS be affected if you walked into your enterprise on Monday morning to find your entire phone system gone? It's safe to say things would grind to a halt before long. Phones play a major role in the enterprise, and when you're in the market for a new enterprise-class phone system, it can be tough to sift through the available options.

Weigh The Options

According to Aron Aicard, senior director of product management with Fonality (www.fonality.com), cost reduction of equipment and recurring fees is valuable, but often overrated. He comments, "If you're in telecom, your job is to drive efficiency up. Cost reductions are often only 10% of the real value available in a modern telephony system. The two most compelling and pervasive areas to improve are labor efficiency (often the largest expense in a company) and revenue growth."

However, Aicard says one challenge that vendors face when attempting to drive up productivity is that the ROI is often based on estimations and predictions. The financial decision makers, he says, are very cautious and prefer to make spending decisions based on hard numbers.

Choose Features

So how do you go about deciding which features are most important to your enterprise? Aicard says for starters, don't let the wrong person evaluate benefits. He elaborates, "For example, if the vendor is proposing that you would see improvement by adding mobility or teleworker features, find out which departments have the highest concentration of workers affected. It is likely to be sales, so don't expect your IT person to give you an accurate read." He says that a central person or small group is not likely to be able to identify and prioritize features.

According to Kull, making a clear list of essential features is also key. He says most enterprise users will only use a fraction of the available features, but rely on those heavily. So don't get blinded by features you don't need, but instead focus on vendors that can support your system through its entire lifecycle.

Unified communications, mobility, and call center are areas getting a lot of vendor attention. In Aicard's opinion, an enterprise should seek to minimize the dollars spent on hardware such as desktop phones and servers. He says hardware is inflexible and inevitably breaks; and software can continuously evolve and improve.

Key Points

- When selecting a new phone system, make sure the right people in the enterprise have a say in the features of the system. If a manager in a single department is driving the evaluation and selection of the phone system, he is likely to misunderstand the value proposition the system has for other departments.
- Equipment cost reductions are often only 10% of the real value available in a telephone system. The two areas to improve are labor efficiency and revenue growth.
- Make a clear list of essential features. Most users will only use a fraction of the available features, but rely on those heavily. Don't focus on features you don't need, but rather on vendors that can support a system through its entire lifecycle.

industry has addressed almost all of them. He says after talking to a telephony-as-a-service company, you may be surprised at what you find out.

Kull continues, "If you have evaluated hosted, you should know it's not like that either. A modern SaaS solution for your telephony needs can do things you may

"VoIP phone systems are complex and need to be installed and maintained professionally to reap the real benefits that go beyond cheaper communication."

- Taridium's Dominique Kull

Dominique Kull, chief technology officer at Taridium (www.taridium.com), says quite often customers do not use the Internet as a market research tool as much as they should. Kull explains, "Customers rely on IT consultants who offer a particular vendor they are affiliated with, but which might not be the ideal choice. The enterprise telephony market is rapidly moving away from the traditional hardware-based offerings to PBX software solutions which are much more flexible and cost-effective."

Kull says when weighing the options, the most important aspect by far is to go with a vendor that focuses on reliability and support. He adds, "VoIP phone systems are complex and need to be installed and maintained professionally to reap the real benefits that go beyond cheaper communication. So first make sure the basics are covered, then go for the must-have features and nice-to-haves. Do your homework, search the Internet, read reviews, and call vendors. The cost for enterprise-class phone systems is dropping rapidly through the adoption of the SIP standard." Kull says software-based phone systems can easily handle hundreds of concurrent calls, beating any proprietary hardware on cost vs. performance alone.

Alternatives

There are alternatives out there to the complicated process of buying a phone system, Kull says. "Businesses can now just decide to never buy a phone system again. Technology now allows businesses of any size to get all the phone system features without the hassle and risk of actually buying them. Services can now provide the features of an enterprise PBX, but with added benefits you can't get with a PBX." Kull says for many years, there have been valid objections to moving telephony into a service model. However, this rapidly developing segment of the

not expect, like WAN failover, private WAN calling, onsite redundancy, full disaster recovery, superior data protection, local telco support, and full customization, to name a few." He says these services eliminate all the hardware headaches, provide all-inclusive support, and are always up-to-date. "Let's face it," Kull concludes, "if your business stagnates year over year, it's dying. So why should you buy an old PBX that stagnates and holds you back? It's now possible to have a system that evolves ahead of your business, helping you to evolve and thrive. Explore all your options." □

Get The Most Out Of Your Phone System

According to Aron Aicard, senior director of product management with Fonality (www.fonality.com), enterprises that get the most out of their phone system purchase do the following well:

- Articulate enterprise goals clearly to the vendor and each of its departments (that is, how you measure for success and where your pain points in the business are). This leads to an effective consultative process.
- Have each major department head get her own separate needs analysis and informal proposal from the vendor.
- Let each department head estimate his department's ROI in terms of labor improvements, cost reductions, and revenue growth.

CLIENTS

SIX QUICK TIPS

Troubleshooting Windows 7

Getting To The Source Of The Problem & Making Fixes Faster

by Bruce Gain

• • •

WINDOWS XP REMAINS the most deployed PC operating system, yet Windows 7's adoption is on an upward trend and has surpassed the percentage of Vista installations, according to market analyst firm Net Applications. In September, 17.1% of all PC workstations ran on Win7 compared to Vista's 13.35% usage share, Net Applications says.

However, as enterprises increasingly adopt Win7, growing pains will almost inevitably follow. Administrators will struggle with drivers, application and hardware compatibility, and other issues associated with the operating system's deployment. Here are some tips to follow when troubleshooting Win7 problems.

Assess The Hardware

The application vendor has made every adjustment necessary to update its software for seamless compatibility with Win7, and Microsoft's tools also indicate that the program is compatible with the operating system. Yet the program, once installed, runs way too slowly to do what the user needs. At the same time, Win7 takes several minutes just to boot up.

When troubleshooting the problem in such a scenario, the solution can involve simply checking whether the problem

machine's components can handle the operating system and the applications running on it. Oftentimes, the workstation needs to be more powerful than what the minimum requirements indicate to adequately run certain applications. "Something as simple as not having the right hardware in place can account for the source of problems when migrating to Windows 7," says Rick Winford, a product manager for HP. "If you are putting Windows 7 on top of hardware you already have, you have to make sure that hardware for all of your users runs it. You need to take steps to make sure there is enough memory, CPU power, disk space, etc."

Overcome Driver Issues

The drivers for certain peripherals are supposed to work with Win7, according to diagnostic tools and vendor documentation, yet they still cannot be installed on Win7. A way around this troubleshooting issue is to manually install the drivers, says John Matzek, CEO of Logic IT Consulting (www.logicitc.com). "If the driver comes as part of the package, and when you run the setup for the whole suite that comes with the driver, sometimes the package won't run," Matzek says. "But sometimes when you manually install the driver without the extra software, then you can get it to work."

For older peripherals or devices for which vendor support no longer exists, old Windows Vista drivers can often work instead with Win7, Matzek says. "If you can get it to work in Vista, 99.9% of the time it is exactly the same in Windows 7," he says.

Use The Lab

Win7 test results in a lab environment or during a pilot phase can offer a wealth of data to use for troubleshooting purposes. All too often, Win7 lab testing in an enterprise only involves running the operating system on a few machines that represent the enterprise's workstation configurations and making sure that they can boot up once Win7 is installed. Instead, information gathered during the testing phase should be well-documented and readily accessible, which can play a key role in the troubleshooting process. Otherwise, if lab results are not well-documented, administrators can easily waste valuable time by troubleshooting and finding solutions to problems that were already solved in the lab prior to the operating system's rollout in the enterprise. "The lab environment is a killer solution for troubleshooting," Matzek says. "You can use [test] results that [address] compatibility issues with Windows 7 when troubleshooting problems, even though the vendor may not yet even [officially] support Windows 7."

Have A Fallback Plan

Troubleshooting, when done effectively, will determine what the Win7 problem is and whether it can be resolved. Part of the troubleshooting process should thus apply to what to do when certain problems cannot be resolved. In some instances, it might be necessary to roll back to the legacy operating system

to run the problem applications, especially if business processes are at risk if the applications cannot run. "Even if you do a lot of tests, preparation, and planning up front, if you roll out 500 Windows 7 PCs with Windows 7 on them and see something has dropped through the cracks, how do you back it out?" HP's Winford says. "If I don't have a good back-out mechanism, I certainly do not want to have to go around to every PC and reinstall Windows XP or something. You must have a back-out strategy."

One back-out option is to use tools that allow you to run WinXP in a virtual mode for certain applications while Win7 remains installed on the PC. "When all else fails, consider Microsoft's XP Mode or [other commercial products] that allow a Windows XP virtual machine to be run on a Windows 7 system," says Michael Silver, an analyst for Gartner. "Understand, though, that these solutions mean supporting, managing, and securing twice as many Windows instances." □

BONUS TIPS

■ **Find a reliable validation process.** A major part of troubleshooting involves making sure that all of the applications are installed correctly and that you are running the updated versions of software on Windows 7. The best way to do that is with automated tools, says Rick Winford, a product manager for HP. "From a troubleshooting

standpoint, you need to set up that validation process, and for any exceptions, have help desk people ready to analyze every exception and to go fix them ahead of time before the user even sees there is a problem," he says.

■ **Use compatibility tools.** Win7 compatibility with existing applications represents a

major source of potential issues to face when implementing the operating system in the enterprise. For troubleshooting purposes, software utilities, some of which Microsoft offers free, can be an immense help in determining whether problems with certain applications are due to compatibility issues with Win7 or not, Winford says.

Best Tip:

Get The Remote Access Right

When troubleshooting Windows 7 problems, the administrator should have remote access and control of the users' machines. "The help desk really needs to take over control of the user's environment [during the troubleshooting process]," says Rick Winford, a product manager for HP. "When there are Windows 7 problems, the help desk should not be asking users about their PC's hardware, because they will likely not know what kind of CPU, memory, or hard disk their machines have. So having that information at your fingertips will solve a lot of the problems."

Most Practical Tip:

Ask If Users Really Need The Application

In many cases, all applications on users' workstations are ported over to run on Windows 7, with little, if any, regard for the business purpose they serve. When troubleshooting Win7 problems with certain applications that are preloaded on machines when migrating to the operating system or porting applications to new Win7 machines, it may turn out that those applications are hardly, if ever, used. Instead of wasting time and resources by troubleshooting problems associated with unused applications, they can be removed from users' machines, says Rick Winford, a product manager for HP.

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Infosys To Hire Additional Workers In United States

India-based Infosys Technologies says it will be setting up larger operations in the United States. Infosys is India's second-largest outsourcer and reported significant growth in revenue for the quarter. Its quarterly revenue



was \$1.5 billion, 66% of which is North American business. According to the company, hiring is likely the reason for the improved performance—the company added more than 7,500 employees in the past quarter. The company expects to hire 1,000 U.S. workers, a goal that was set at the start of the fiscal year. Employees will likely have architectural skills, managerial skills, and experience in large application migrations, cloud computing, and development, according to the company.

AMD Posts Loss In Third Quarter

AMD reported third quarter revenue of \$1.62 billion, an increase over the \$1.4 billion revenue reported in the same quarter last year. Despite the increase, the company posted a net loss of \$118 million (17 cents per share) for the quarter; however, year-over-year, that number is an improvement over its Q3 2009 net loss of \$128 million (18 cents per share). Revenue for the computing segment of the company was up 13% year-over-year. AMD saw record sales of microprocessors, and the price per unit was up from 2009. Revenue in the graphics area increased 33% year-over-year, although it dipped sequentially because of decreased unit shipments and a reduction in price per unit.



Bluetooth Shipments Set To Increase

According to research firm In-Stat, by 2013, shipments of Bluetooth-enabled devices will increase to more than 2 billion, partially on the strength of Bluetooth Low Energy technology. In-Stat says that growth will be driven by the fact that Bluetooth technology will continue to be embraced by the PC, automotive, industrial, and medical markets. The firm also states that traditional Bluetooth technology will remain in phones for a long time and that midsized sedans are the so-called "sweet spot" for Bluetooth in the automotive industry.

Yahoo! Q3 Net Income Lower Than Forecast

Yahoo! is struggling to overcome critics, and its third-quarter sales, which were slightly lower than forecast, didn't help. Sales came in at \$1.12 billion, compared to a predicted \$1.13 billion. The search engine giant also posted lower revenues from display advertising, down 7% compared to the previous year. However, Yahoo!'s revenue saw a 2% upturn compared to Q3 2009.

Implement A Sensible Mobile Device Strategy

Listen To Employees, But Assert Control

by Bridget Mintz Testa

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WHETHER INFORMALLY or formally, converged devices such as cell phones, PDAs, and other wireless devices are still going strong. That's because the capabilities provided by convergence—the combination of multiple technologies, including applications, data, telecommunications, and video, all in one small, lightweight package—benefit enterprises in many ways.

As with all technology, though, there are risks associated with using mobile devices. And among the hazards with using such devices is the potential for losing the device or losing control of sensitive or proprietary data. Mobile phones frequently get lost or stolen, but it is also possible for a disgruntled employee to walk out the door with critical information tucked away in his cell phone.

Enterprises must take control of mobile device use. They must evaluate their strategic and tactical reasons for using these devices, weigh the benefits and risks, and then establish a policy for using such devices. To get employee buy-in, enterprise reps need to explain the reasons for the policy and show how it can help employees do their jobs.

Risks & Benefits Of Mobile Devices

Although it may seem that everyone uses mobile phones, in the business arena, SMEs are still trailing large enterprises in formally

Of course, the flip side of this is the list of risks. Employees who store sensitive or even proprietary company or customer data on their phones may not have the proper security protocols in place. They may use that data improperly or illegally, or they may transmit it over insecure networks. Enterprises have no insight into the communications between an employee and clients that take place on the employee's personal cell phone, and such communications may not be secure. Malware is as much a problem in the mobile environment as it is in the desktop environment.

An enterprise loses control of potentially critical data and corporate communications when it lets employees use mobile devices as they please.

Prepare To Establish A Policy

Whether an enterprise chooses to purchase mobile devices and issue them to employees or lets its employees use their personal devices, it must establish a policy concerning the technology. Before that can happen, though, there's work to be done.

The first thing managers must do is get the right people together to assess the current situation and the enterprise's objectives for utilizing mobile devices. This means top management, IT, and even users—employees who can discuss why and how they use mobile devices for conducting

instance, you'll want to be able to wipe a phone's memory—whether it's a personal or company-issued phone—in the event the phone is lost or stolen.

Key Points

- Employee use of mobile devices in the workplace continues to grow, providing benefits such as increased productivity and better customer service. There are risks, such as the loss of data, if phones are lost or stolen.
- Before establishing a policy, evaluate the business reasons for mobile connectivity. Also look at issues such as regulation, user requirements, and resources for support.
- Getting employee buy-in for a new policy requires explaining the reasons for it and presenting it in a positive light.

You must look also at the applications your employees use regularly, what kind of access controls and data security are required, if any network is OK or if only a secured network will do, and whether you need to purchase rugged devices. You must define acceptable use, decide whether you want to standardize on specific mobile platforms, and choose whether you'll issue company phones or let employees use their personal phones.

When it comes to the IT aspects, know who in-house will support the devices in terms of upgrades, applications, troubleshooting, security, and so on. Redman says. "It can't be just one group. You need to align all groups . . . for platform implementation and support such as services, hosting and management, and the help desk. Supporting multiple platforms can be difficult even for large enterprises. You must determine if you have the knowledge and resources to provide that support or if you need to use a third-party provider. Evaluate your internal resources to do this."

Get Employee Buy-In For A Mobile Device Policy

If mobile device use within your enterprise has been totally laissez-faire, with no rules and restrictions, employees may be less than excited to hear that a policy is being developed. "It's about change management," Lobel says. "Once you design your business requirements, you need to communicate the business value that will make employees' lives better with this mobile strategy. . . . Show people how it will help them in their job[s]."

If your company settles on specific devices, the decision may exclude ones that employees are already using. "Offer a choice that meets the users' needs and the corporate goals," Redman says. "You don't want to restrict it to one device, but you can't offer everything. Restrict the choices to four to six different categories to avoid the cafeteria approach. Explain that you're not taking away; you want to provide more support and more security, but you can't support everything."

The needs of the business are priority one, but you must also consider how and why employees use what devices.

adopting the technology. "[The adoption rate] is still growing," says Tim Doherty, IDC research analyst. According to IDC's published figures, mobile phone vendors will ship 269.6 million "converged" mobile devices this year vs. 173.5 million units shipped last year.

Perhaps the biggest trend is the growth of smartphone use in the business, both by employees who own their own phones and by company-issued ones. Phillip Redman, research vice president in telecom for Gartner, says 50% of new phone purchases made last year were smartphones, and he predicts that number will be closer to 75% or 80% this year. "In two years, pretty much every business user will have a smartphone," Redman adds.

The use of personal or company-issued phones for work-related tasks has many benefits. "They increase workforce productivity, improve customer service, and allow faster turnaround time for problem resolution," says Mark Lobel, a member of ISACA's Guidance and Practices Committee and a partner at PricewaterhouseCoopers. "They increase business process efficiency, enhance employee safety and security, and lead to higher employee retention because [the phones] help employees better manage their work-life balance."

business. "Define the business requirements for mobile devices," says Lobel.

The needs of the business are priority one, but you must also consider how and why employees use what devices. "It's difficult to deliver technology in the right way if you don't know what you have," Redman explains.

A big concern is how regulated your company is. "If you're regulated, mandate employer phones," Doherty says. If you're not regulated, you can allow employees to use their own phones, but you'll still need some control over those phones. For

Mobile Device Management Software

"There's no way to ensure buy-in to a mobile device policy without enforcement through mobile device management software," says Tim Doherty, research analyst at IDC. Such software lets a company locate and then wipe or lock a lost or stolen phone. Doherty says third-party programs that provide enterprise-level control are available for Android, Apple, and BlackBerry phones, for instance.

SERVICES

BUYING GUIDE

BUYING TIPS:

Equipment Recycling Services

by Rod Scher

• • •

A RECENT INFO-TECH REPORT notes that on the corporate side, failure to properly retire PCs and other equipment can cost businesses on several fronts:

- Companies may have to pay fines for contaminating air and groundwater by shredding, burning, or sending PCs to landfills.
- Failure to wipe sensitive data off of retired computers can result in privacy breaches.
- Companies pay a price when retired equipment is forgotten on closet shelves or in warehouses. Often accounting departments are unaware of the whereabouts of the assets, unnecessarily increasing the companies' tax burdens.

That's why it is important to appropriately retire, recycle, or refurbish equipment—with refurbishing often providing the most eco-friendly retirement option. "It is much more efficient to refurbish computers than it is to recycle them," says DMD Systems

Recovery President Morris Scott. "Put simply, 100 computers recycled saves enough electricity to power about 2.75 households

Key Terms

Certification. Many asset recycling companies offer certifications guaranteeing compliance with federal or state security requirements, government-mandated levels of secure destruction, and more.

E-waste. The disposal of electronics; incorrect disposal often results in the introduction of toxic chemicals in landfills and sometimes water systems.

Reuse. Assumes that equipment will be refurbished and either returned to your premises or sold with your company sharing in the revenue generated by the sale.

Sanitization. A process that completely destroys or erases data on equipment such as hard drives or flash drives that could contain sensitive information.

for a year, while computers that are refurbished and reused would save enough electricity to power 68 households for a year."

Regardless of which approach you take—refurbish or recycle or some combination—what should you look for in a partner?

Consider a global provider. Chris Adam, Converge's vice president of IT asset disposition services, says companies should consider hiring a global provider rather than multiple local companies. "It is more efficient and cost-effective to work with an ITAD provider with access to a complete network of product lifecycle services. This offers customers a worldwide network of specialized services, facilities, and managed partners in one single, seamless process for properly disposing of retired IT equipment."

Look for online reporting tools. Find a company that can offer secure real-time online reporting tools. "An ITAD firm should provide a reporting tool that offers transparency throughout the entire chain-of-custody . . . with multiple reports available to ensure that assets are accounted for," Adam says.

Transparent process. The process must be transparent, secure, and mature. "The company should have in place a consistently proven process with vetted downstream providers and a professional staff to ensure that its customers' assets are handled securely each and every time," Adam says. "These measures should be consistent and

Buyers' Checklist

Security. Your partner company must be able to guarantee in writing the secure destruction of all sensitive information and materials.

Transparency. The processes used by your partner company must be open and viewable in real-time; you should be able to know where your material is at any point in the process.

Vetted providers. Your security is only as good as the security of your partner's supplier. The company's downstream providers must also be vetted and must also offer transparent processes.

Longevity. How long has the company been in business? The longer the better. The recycling company should also be willing to supply references of long-term customers with whom you can speak.

Affiliations. The company should be able to show professional affiliations that provide validation that it abides by a sense of business ethics and that show that the company is a well-respected participant in the asset disposal community.

repeatable regardless of the pickup location."

Don't forget about security. About 76% of companies polled by Converge and Osterman Research report that data security is their top concern when considering the release of IT assets from their organizations. "Do not settle for a company that does not satisfy your business requirements," Adam says. "An ITAD provider should offer data security services focused on proper data erasure and destruction techniques, based on industry best practices and standards." □



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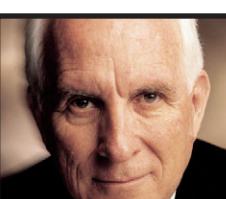
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- Equipment is refurbished with working components
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Best For: Enterprises that have a variety of electronics to remove and recycle.

Company

Electra Worldwide



Description

Electra Worldwide specializes in providing safe, secure, and reliable electronics recycling that produces the greatest benefit to the environment while minimizing the financial impact on customers. The company has developed systems and solutions that ensure peace of mind—it manages the entire recycling process from start to finish, guaranteeing that clients receive the best value for their equipment.

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Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Rod Scher

Services

Converge



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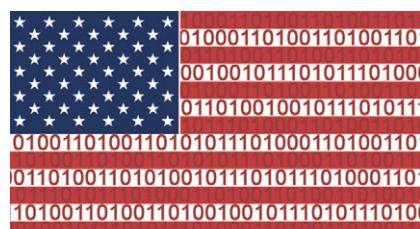
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U.S. Companies, IT Firms Among Most Attractive Employers

Google is the most attractive company to work for, according to Universum's "The World's Most Attractive Employers 2010" index. Google held its No. 1 ranking from 2009 in both the business and engineering lists. Microsoft, IBM, Sony, and BMW rounded out the top five in the engineering list, while KPMG, Ernst & Young, PricewaterhouseCoopers, and Deloitte rounded out the top five in the business list.

IT companies maintain a tight hold on the top spots for most-attractive employers; auditing firms are also rising in interest. Companies not faring well include those within the banking



and investment industry, management consulting firms, and oil and gas providers. Universum notes that the world's changing demographics, such as low birth rates and death rates, are affecting the workforce by creating a "war for talent" to nab those rare, top-performing employees. According to Universum, multinational corporations require a talent attraction and employer branding strategy now more than ever.

Christopher Van Mossevelde, global communications coordinator at Universum, says top-rated companies achieve their status by scoring 60% or more in the following categories: professional training and development, leaders who support employee development, good prospects for high future earning, creative and dynamic work environment, good reputation, good reference to a future career, and competitive base salary.

Attracting Talent

"Job seekers today are aware of the importance of building up their employability and are focused on developing their personal brand, i.e. the professional image they portray to potential employers. They are increasingly aware of the importance of managing their online profiles via professional and social networks, whether it's LinkedIn or Facebook," Van Mossevelde says in a blog post.

"The reputation of the company has a large influence for today's top talent," he says, adding that many potential employees today are "badge collectors," striving to get work experiences at companies that have a positive image, are well-known, and are internationally recognized.

"Regarding the world's most attractive employers, it's interesting to see that mostly American companies excel in talent attraction," Van Mossevelde says. American corporations represent the single largest group in the index.

About 130,000 career seekers (college students across the globe), all of whom have a business or engineering background, were interviewed for the talent attraction index. The survey is conducted online with the help of career service centers at the universities or colleges the career seekers attend.

by Antona Beckman

SIX QUICK TIPS

Boosting Your Time & Project Management Skills

Maximize Productivity, Minimize Downtime

by Sixto Ortiz Jr.

• • •

PROPERLY MANAGING TIME is a key element of project management. After all, projects have deadlines, and without proper time management, a project can quickly fall off the rails and come in past the deadline (and blowing past a deadline often means blowing past the project budget).

Cultivating and practicing effective time and project management skills is essential for IT professionals, who are often tasked with executing time-sensitive and expensive projects needed to support business operations. Thankfully, there are numerous best practices IT professionals can apply to enhance their time and project management skills.

Give Power To The People

Without dedicated personnel, successful project execution is not possible. So, keeping team members focused and motivated is perhaps the No. 1 priority for the smart project manager.

Computer consultant and trainer Ellen DePasquale says project management is mostly about people management, so project managers should understand the personality traits, stresses, abilities, and strengths of everyone on the team. Managers should understand who is on the project and their relationship to the project manager, as well as how they work, what is important to them, and how it affects the project manager.

Managers should also be cognizant of project team member workloads and fine-tune their strategies accordingly. Cynthia K. West, Ph.D. and vice president at Project Insight (www.projectinsight.net), says executive management often has no visibility into all of the projects and tasks the team is performing, so they labor under the belief that the organization can achieve more than it is capable of in terms of sheer workload.

Defeat Distractions

Whether it's the annoying individual who pops in every 30 minutes for an impromptu conference or the constant barrage of email arriving at the inbox, distractions are probably the No. 1 reason why an IT professionals' day can quickly go off the rails. Wasted time equals wasted opportunities to accomplish meaningful work that helps deliver a project on time and on budget.

DePasquale says everyone thinks they are multitasking when they are actually "task switching," which can waste a lot of time. To counter this, DePasquale recommends

identifying the biggest distractions so a strategy for avoiding them can be developed. For example, she adds, reading and responding to emails should be a session done several times during the day rather than immediately responding to every email that arrives in the inbox.

Michael Hamelin, chief security architect for Tufin Technologies (www.tufin.com), says it's too easy to turn email into an instant messaging client that is checked every three to five minutes. Hamelin schedules four email sessions per day and tries to stick to those. Also, he adds, because the BlackBerry is an extension of email that is essential for staying in contact but can take over a person's life, its use must also be managed. Hamelin recommends using filters on the BlackBerry so only messages from key personnel are received.

Stay In Constant Communication

Communication is one key to steering a project to a successful conclusion that is often overlooked. This is particularly vital for a project involving a team of people performing various project tasks. Muddled and ineffective communication leads to confusion, wasted efforts, and a lack of focus by key personnel.

Mark E. Calabrese, PMP, managing consultant for business strategy execution at Project Leadership Associates (www.projectleadership.net), says project managers should boil down messages to their base components, so information can be synthesized into repeatable base concepts tied to business operations, needs, or results. Then, he adds, project managers should stay on message: This means the project manager must be the messenger, change agent, and evangelist who "preaches" the word until gaining consensus.

Also, he adds, expectations must be consistently managed via constant communication. All stakeholders and project influencers need to have expectations set, reset, reconfirmed, and managed on a very regular basis.

A key to effective communication is ensuring that the proper information is displayed and communicated using the proper tools and methods. West says a common reason why projects fail is related to visibility. She says all three tiers of the project team—executive management, project managers, and IT project members—need access to the right level of information at the right time.

The best solution, West says, is a combination of tools, processes, and people-based changes. For example, a good way

to share information is to post projects and related documents to SharePoint or some other intranet or extranet solution that enables project information to be shared and worked on remotely and in real time. Other ideas, she adds, include communicating IT project priorities in status meetings and reiterating those frequently. At a bare minimum, West says, communication

Most Practical Tip:

Hold Effective Meetings

A good way to improve efficiency and keep an IT team on track is by using daily stand-up meetings, says Rebecca Peterhansen, Project Manager for Liquid Designers (www.liquiddesigners.com). These meetings should be run by the project manager and last 15 minutes. The goal, she adds, is to provide updates on the items the project team worked on yesterday, what they are going to work on today, and what problems have been encountered that impede progress.

Best Tip:

Use Easy-To-Implement Tools

Some easy ways to quickly understand the tasks project team members are working on include the use of a whiteboard featuring a daily grid showing tasks and the individuals performing them, says Cynthia K. West, Ph.D. and vice president at Project Insight (www.projectinsight.net). Another way is the use of Excel spreadsheets to outline tasks and the team members working on those tasks. The key factor to keep in mind when using these two approaches is ensuring there is a point person tasked with managing the task board or the spreadsheet.

should be posted in a centralized location so anyone joining the project midstream, for example, can get up-to-speed quickly by reviewing the entire project history. The best solutions are Web-based collaborative and project systems that provide a centralized location for project and task communication, West says.

Synthesize Strategy

Project managers should have a clear strategy for executing a project and seeing it to completion. To that end, effective planning is the key to effective time and project management.

Independent consultant and project manager Michelle Wallace says project managers should be very clear about what decisions are business decisions and which are IT decisions. Project team members should be made aware why it is one or the other, so they can apply that thinking themselves. For example, Wallace says, some technical decisions are really business decisions, and technicians need to understand how to get onboard. **P**

BONUS TIPS

■ **Delegate work.** As a manager, it's important to delegate work, says Johanna Rothman, president of the Rothman Consulting Group. When delegating work, then,

managers should clearly point out expectations, such as outcome, process, or both. Rothman also says that three-

point estimates for IT projects should be provided: optimistic, likely, and what will happen if Mr. Murphy pays a visit.

■ **Get three-point estimates.**

BOOK REVIEW

Is The Web Changing The Way We Think?

The Shallows:
What The Internet Is Doing To Our Brains

Author: Nicholas Carr
Publisher: W. W. Norton & Co.
Price: \$26.95
Format: Hardcover, 276 pages

by Kurt Marko

• • •

MOST PUNDITS REFLECTING on the Internet as a civilization-changing phenomenon focus on the many wondrous things it can do for us, or how it has changed life, society, and

KEY CONCEPTS

- Although the pace of society may indeed be faster these days, "The Shallows" argues that the frenetic, out-of-control feeling experienced by many is exacerbated by the change in our media environment, as exemplified by the nonstop action and information overload provided by Web browsing.
- The author demonstrates scientific research validating that different forms of media shape how we think about them. Books yield one set of thought patterns and television another, while the Web is like television on steroids.
- The type and quantity of media stimulus also creates demonstrable, persistent physical changes in our brains.

enterprise for the better. Seldom do any question what the Internet is doing to us, or how it might be affecting our brains, cognitive processes, and personal relationships. Nicholas Carr takes just such an unorthodox and characteristically skeptical view in his latest book, "The Shallows: What The Internet Is Doing To Our Brains."

The Way We Think

The book's central thesis is that the Web, with its constant influx of competing messages, is changing the way we think and, ultimately, our capacity to understand and follow complex arguments. Carr's basis is research, some of it decades old, showing that the brain physically adapts and changes in response to the way it's used.

Carr's ample documentation shows that constant sensory stimulus overloads our working memory, making it much more difficult to concentrate on any one thing. Yet because the brain is an adaptive organ, the disturbing consequence of this sensory overdose is long-term changes. We're effectively training our brains to efficiently recognize and respond to interruptions and

be less facile at following detailed, multi-step arguments—for example, those found in books. These neurological changes, while not permanent, are persistent. The brain's rewiring takes time, which is a particularly cautionary fact when considering that young people are the biggest consumers of digital media.

Central Metaphor

The contrast between the Web and books is Carr's central metaphor for those media and environments fostering reaction vs. those demanding reflection. Carr says fears of such science fiction epics as "2001: A Space Odyssey," in which computers become too lifelike and human, have been upended.

Rather, today's networks of machines offering instant content are making us think much more like computers.

Carr's presentation and conclusions are balanced and largely supported by a recent New York Times series on the cognitive and neurological effects of technology. If you want to understand why it seems more difficult to concentrate these days, read this book. The cause is likely the ceaseless barrage of media such as YouTube videos, text messages, tweets, and smartphone games. It's the result of countless Web sessions, and the continual flitting from one site to the next like a butterfly in a flower garden, rewiring your brain in ways that impair deep, extended thought. □

New & Upcoming IT Book Titles

"Buy-In: Saving Your Good Idea from Getting Shot Down," by John P. Kotter and Lorne Whitehead

A title from a legendary business professor that reveals how to protect good ideas and win the support needed to turn them into valuable business results. The authors outline common attack strategies used by naysaying opponents and stress engaging rather than avoiding adversaries.

"The CIO Edge: Seven Leadership Skills You Need to Drive Results," by Graham Waller, Karen Rubenstrunk, and George Hallenbeck. The book probes the secrets behind great CIOs. It's not enough to be technically savvy and understand the company's competitive landscape; great CIOs forge good working relationships with everyone involved in an IT-enabled project. This book lays out the leadership skills the best CIOs have in common.

"Code in the Cloud: Programming Google AppEngine," by Mark C. Chu-Carroll. Instead of designing single-user applications to run on a PC, apps are increasingly built as multiuser services running in cloud data centers around the world. This book shows how to build a cloud service using AppEngine, covering the Web-based UI, Web application security, management of persistent data, and interaction with other cloud services.

"Security Information and Event Management (SIEM) Implementation," by David Miller, Shon Harris, Allen Harper, Stephen VanDyke, and Chris Blask. A hands-on guide to deploying SIEM to monitor, identify, document, and respond to security threats and reduce false-positive alerts. The book outlines how to implement SIEM products from different vendors and discusses the strengths, weaknesses, and advanced tuning of these systems, illustrated by real-world case studies.

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